





USING EMOTIONAL INTELLIGENCE TO LEAD THE TACOM WORKFORCE

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Abstract

As more companies enter into the service business instead of the manufacturing business, employees have become an organization's most important assets. This has led to a different focus on what is needed for good leadership. One increasingly important requirement for good leadership with these changes is emotional intelligence. This study surveys the senior leaders at TACOM to assess their self-reported emotional intelligence. The paper also examines the impact of the training programs currently offered to TACOM employees on their emotional intelligence.

This study focused on the emotional intelligence of TACOM senior leaders. There are 907 people in senior leadership positions, defined as being at a GS-14 or equivalent level and above, across five organizations at TACOM. The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Factors such as leadership experience, gender, and military background were also examined to determine their effects on emotional intelligence.

Daniel Goleman's theory of emotional intelligence (1995) using five constructs-Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills-provided the framework for this study. The findings of the research show overall TACOM senior leaders have effective emotional intelligence, with some areas that could be improved. Additional findings show that factors such as the number of leadership courses taken and the years of leadership experience have a statistically significant affect on emotional intelligence. Other factors such as gender, age, and military experience do not have a statistically significant affect on emotional intelligence.

Chapter 1 - Introduction

You don't manage people; you manage things. You lead people. This is a quote that can be found in many popular books on the topic of leadership. To date, there are many opinions about what it takes to be a great leader but no definitive answer. The technology advances in the twenty-first century have precipitated significant changes for the workforce; consequently, the old ways of doing things may no longer be effective or efficient (Redman & Kotrlik, 2004). Studies have shown that great leadership is more than a mastery of technical skills; and the soft skills have become crucial (Mitchell, Skinner, & White, 2010). Soft skills describe a set of abilities or talents that an individual can bring to the workplace which may include team skills, communication skills, leadership skills, customer service skills, and problem solving skills (James & James, 2004).

One area that is identified with both technical and soft skills is intelligence. This area has been studied and debated in many different research studies. The broad category of intelligence can further be reduced to sub-categories such as technical, social, and emotional. This paper will focus on emotional intelligence (EI) and how it applies to senior leaders at TACOM. For the purpose of this research, EI is defined as the set of abilities, both verbal and non-verbal, that enables a person to generate, recognize, express, understand, and evaluate their own and others' emotions in order to guide thinking and make decisions (Van Rooy & Viswesvaran, 2004).

Background

For TACOM leaders, emotional intelligence becomes more important if the leader desires to become a member of the Senior Executive Service (SES). The Office of Personnel Management (OPM) for the federal government identifies five Executive Core Qualifications (ECQs) that define the competencies needed to build a federal corporate culture that strives for

results, serves the warfighter, and builds successful teams and coalitions both within and outside the organization. These ECQs are required for entry to the SES and are often used by many departments and agencies in selection, performance management, and leadership development for management and executive positions (Guide to Senior Executive Service Qualifications, 2010). Figure 1 for the lists the ECQs and fundamental competencies associated with each ECQ.

ECQ	Fundamental Competencies	
ECQ 1: Leading Change	Creativity & Innovation	
	External Awareness	
	Flexibility	
	Resilience	
	Strategic Thinking	
	Vision	
ECQ 2: Leading People	Conflict Management	
	Leveraging Diversity	
	Developing Others	
	Team Building	
ECQ 3: Results Driven	Accountability	
	Customer Service	
	Decisiveness	
	Entrepreneurship	
	Problem Solving	
	Technical Credibility	
ECQ 4: Business Acumen	Financial Management	
	Human Capital Management	
	Technology Management	
ECQ 5: Building Coalitions	Partnering	
	Political Savvy	
	Influencing/Negotiating	

Figure 1. Executive Core Qualifications for Senior Executive Service

Based on the list of fundamental competencies that are seen as essential for the senior most leaders in the federal government, only the areas of Technical Credibility, Financial Management, and Technology Management can be described as purely technical competencies.

The remainder of the list requires strong soft skills, including several areas such as Innovation, External Awareness, Flexibility, Conflict Management, Leveraging Diversity, Developing Others, Team Building, Problem Solving, and Influencing that are considered part of emotional intelligence.

The exploration of how a leaders awareness of self and the ability to control her emotions for the achievement of the common goal are key areas of emotional intelligence as defined by Daniel Goleman (Goleman, 1998). Additionally, leadership training has become a standard practice for most organizations. As companies begin to recognize people as their most valuable assets, there appears to be a strong desire to make sure that leaders are developing EI.

Emotional intelligence refers to the array of personal-management and social skills that allows one to succeed in the workplace and life in general. EI includes intuition, character, integrity, and motivation as well as good communication and relationship skills (Sterrett, 2000). It can be separated into two categories: intrapersonal, defined as being intelligent and effective at identifying and dealing with our own thoughts and feelings, and interpersonal, defined as being intelligent and effective at identifying and dealing with the thoughts and feelings of others (Palethorpe, 2006). This research paper will focus on the mixed model developed by Daniel Goleman (Goleman, 1998). According to Goleman there are five main constructs to EI:

- Self-Awareness The ability to read one's emotions and recognize their impact while using gut feelings to guide decisions (Intrapersonal)
- Self-Regulation Controlling one's emotions and impulses and adapting to changing circumstances (Intrapersonal)
- Motivation Using one's tendencies to set and achieve goals (Intrapersonal)

- Empathy The ability to sense, understand, and react to others' emotions while comprehending social networks (Interpersonal)
- Social Skills The ability to inspire, influence, and develop others while managing conflict (Interpersonal)

This research will focus on identifying how TACOM senior leaders score in each of the above constructs. The data collected will identify the areas where TACOM leaders feel strongest and the areas where they feel weakest. Additionally, respondents were asked to identify the training classes that contributed most to their EI. The leadership training classes that are available to TACOM leaders include:

- ACQ 450 series
 - Leading in the Acquisition Environment (ACQ 450) Provides an overview of the competencies and skills needed to lead in an acquisition environment.
 Experiential activities include role playing, simulation, communication, critical thinking, and completion of a 360° feedback instrument (Defense Acquisition University, 2011).
 - Integrated Acquisition for Decision Makers (ACQ 451) Provides
 multidisciplinary acquisition perspectives, integration challenges, and influencing
 strategies necessary for successful integrated acquisition decision making. The
 course is intended to give participants wider view of the acquisition environment
 and their respective roles and responsibilities (Defense Acquisition University,
 2011).
 - Forging Stakeholder Relationships (ACQ 452) Provides methods and skills
 necessary to identify, assess, and promote the building of stakeholder

relationships required for success in the acquisition environment (Defense Acquisition University, 2011).

- Program Manager's Course (PMT 401) Intended to strengthen the analytical, critical
 thinking and decision-making skills of potential leaders of major defense acquisition
 programs and program support organizations by using the case study method to represent
 acquisition program challenges (Defense Acquisition University, 2010).
- Civilian Education System (CES) Leader Development Program
 - Basic Course Program designed to provide students an understanding of how to effectively lead and care for teams. Students gain the ability to understand and apply basic leadership skills, communicate effectively, demonstrate situational awareness, and develop mentoring skills (Army Management Staff College, 2012).
 - Intermediate Course Program designed for Army civilians to prepare them for increasing supervisory responsibilities. Students enhance their leadership abilities, develop skills to manage human and financial resources, and learn to display flexibility and resilience with a mission focus (Army Management Staff College, 2012).
 - Advanced Course Program designed for civilian leaders to enhance their skills in leading complex organizations, integrating Army and Joint systems, inspiring vision and creativity, implementing change, and managing programs (Army Management Staff College, 2012).

- Focus Used with teams and individuals to provide common time management skills to increase team and individuals effectiveness. Most effective when used with existing teams to provide a framework and language for the team to be accountable to each other.
- Franklin Covey 7 Habits of Highly Effective People Training course to teach life
 leadership skills such as relationship building, being principle-centered, and being
 effective vice efficient. Provides an effective foundation for building interpersonal
 relationships. Allows groups and people to talk about how to build character, trust,
 empowerment, and aligning within organizations.
- Franklin Covey 7 Habits for Managers Program that focuses on management skills and
 provide a robust array of practical tools for experienced as well as emerging managers.
 Provides managerial tools for improving productivity and effectiveness while offering a
 new way of thinking about work.
- Franklin Covey 4 Roles of Leadership Training course in the leadership skills of pathfinding aligning, empowering, and modeling. Also used as the framework for discussing the requirements for the key leaders on the front end of change.
- Leading at the Speed of Trust Workshop that raises trust from an often ignored asset or
 liability to a strategic advantage in the marketplace. Applying principles from this course
 dramatically lowers costs, speeds up results, and increases profits and influence. This
 highly interactive workshop engages leaders at all levels in the real work of identifying
 and closing the trust gaps.
- Five Choices Proven methodologies that, independently can provide outstanding results,
 are combined to provide customized answers for unique issues. Provides leadership and
 support for organizations to address organizational processes, systems and structures

using the appropriate blend of these tools and methodologies. Used with five key directorates, divisions, and branches to identify current core processes and identify how to improve core processes, removing non-value added activities.

• Franklin Covey Leadership and Organizational Effectiveness - Used to assist in the diagnosis and design of an organization. It is a tool that can outline where the organizations are at and what is required to stand up new organizations. It can also be used to keep the respective directorates and their branches on track in the future.

Problem Statement

The Detroit Arsenal, or TACOM, has a range of employees that include military, civilians, and contractors to support the Army's ground combat fleet and combat support systems. Leaders are developed in a variety of ways but not all leaders are required to participate in specific leadership training. It is important that these leaders have high emotional intelligence, which has been linked with better organizational climates (Singh, 2008). However, it is not known if leaders at TACOM have high emotional intelligence. Additionally, it is unknown whether specific training programs contribute more than others to emotional intelligence.

Statement of Purpose

The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Factors such as leadership experience, gender, and military background will be examined to determine their effects on emotional intelligence. The research will compare the EI scores to the years of leadership experience to determine if it has a significant effect. The research will also compare the EI scores of men and women to determine if gender has an impact. It will also compare the EI scores of those with military experience and those without to

determine whether the military experience has an impact on the EI score. Once the most significant factors and most effective training programs in developing EI have been identified, potential training options and other programs for developing EI can be developed.

Research Questions

The primary focus of this paper is to determine how emotionally intelligent TACOM senior leaders are.

Secondary questions include:

- Can the amount of training taken be linked to higher EI in TACOM senior leaders?
- Does military experience make a significant difference in EI in TACOM senior leaders?
- Does gender make a significant difference in EI in TACOM senior leaders?
- Does age make a significant difference in EI in TACOM senior leaders?
- Does the amount of leadership experience make a significant difference in EI in TACOM senior leaders?

Research Hypothesis

The following hypotheses will be tested for this research project:

- H_{0A}: The amount of training does not have a significant effect on EI of TACOM senior leaders
- H_{0B}: Military experience does not have a significant effect on EI of TACOM senior leaders
- H_{0C}: There is no difference in the EI of male and female senior leaders at TACOM
- H_{0D} : Age does not have a significant effect on the EI of TACOM senior leaders

 H_{0E}: The years of leadership experience does not have a significant effect on EI of TACOM senior leaders

Objectives and Outcomes

The primary objective is to determine how emotionally intelligent TACOM senior leaders are. The secondary objective is to identify whether any factors such as military experience, gender, age, or leadership experience have a significant effect on the emotional intelligence of TACOM senior leaders. The primary outcome is to identify how emotionally intelligent TACOM senior leaders are and recommend opportunities to increase the EI of the current and future TACOM senior leaders.

Significance of This Research

Currently, the defense budget is facing significant cuts. With the changing world environment, organizations, including TACOM, will have to learn how to do more with less. The pace of operations will not slow down, therefore leaders must learn how to motivate and encourage employees to achieve the same success rate with fewer resources. Leaders must also be able to recognize and manage conflict before it becomes an impediment to completing the mission. Since high EI has been identified as a benefit to job satisfaction, it follows that more emotionally intelligent leaders will have teams that are more satisfied. Employees that are satisfied with their jobs and work are more productive and less likely to seek out other employment opportunities (Singh, 2008). If the TACOM leaders are highly emotionally intelligent and training is shown to be a significant factor, additional training can be identified to improve their EI skills. If training is not a significant factor, other methods will need to be investigated to improve their EI.

Overview of the Research Methodology

The data to support this research will be mainly quantitative. It will be gathered using an online survey. Three open-ended questions were included on the on the survey to provide qualitative data. The organizations that will be surveyed are Army Contracting Command (ACC), Program Executive Office (PEO) Ground Combat Systems (GCS), PEO Combat Support and Combat Support Systems (CS&CSS), Tank Automotive Research, Development, and Engineering Center (TARDEC), and the Integrated Logistics Support Center (ILSC).

Limitations of the Study

This study is limited to the senior leaders at TACOM and does not account for other variables that could affect EI. The measurement instrument used to collect data is a self-assessment tool. Therefore, some bias can be expected about the emotional intelligence reported by those surveyed.

Chapter 2 – Literature Review

Theory, Models, and Measurement Tools

The concept of emotional intelligence has generated confusion and controversy regarding the best way to measure it, the validity, and its applicability to predicting job performance (Cherniss C., 2010). The concept of EI is based on three premises (Cherniss C., 2010):

- Emotions play an important role in life.
- Each person's ability to perceive, understand, use, and manage emotions is different.
- These differences affect individual behavior in every situation, including the workplace.

These three premises can be found at the core of research on emotional intelligence, regardless of which model or measurement tool is used. As suggested by its name, emotional intelligence is formed from two main components, emotions and intelligence as seen in Figure 2.

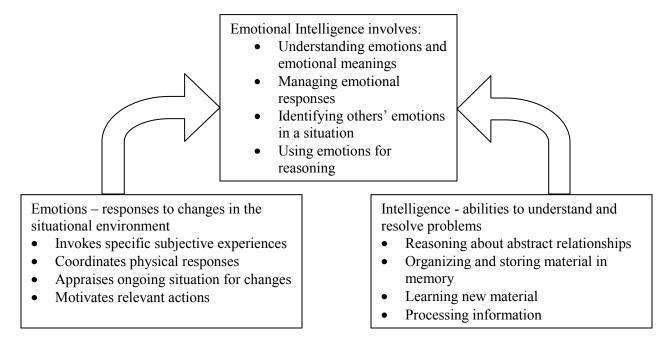


Figure 2. Emotional Intelligence Model (Mayer, Roberts, & Barsade, 2008)

The workplace has evolved from a place where employees were expected to be emotionally neutral to a place where emotions are perceived to be central to experiences and predictors of performance (Rajah, Song, & Arvey, 2011). Developing leaders with the ability to effectively use their emotions to motivate, engage, and retain employees has become a performance goal for many companies and senior leaders (Dearborn K., 2002).

History. Intelligence Quotient, or IQ, has been used for years to measure a person's intelligence potential. A person's IQ has long been a standard of measurement intended to predict a person's success in the work force. However, early researchers recognized that emotions and personality play a role in a person's characteristics. The roots of the study of emotional intelligence can be found in David Wechsler's idea of non-collective aspects of general intelligence from 1940 (Wechsler, 1940). Several years later, in 1948, Leeper proposed that emotional thought contributes to logical thought and intelligence in general (Leeper, 1948).

The next major contribution to the study of emotional intelligence came 35 years later from Harvard psychologist, Howard Gardner. Gardner proposed that intelligence encompasses multiple dimensions, combining cognitive aspects with personal intelligence. The personal, or emotional, aspect of his concept included two general components that he referred to as intrapsychic capacities, or the ability to know oneself, and interpersonal skills, the ability to be socially adept (Gardner, 1983). His research was bolstered by the discovery the amygdala, a part of the limbic system of the brain that perceives emotional behaviors, by New York University neuroscientist Joseph LeDoux. LeDoux's research showed that the human brain has a memory system that stores both ordinary facts and emotionally charged facts (Holt & Jones, 2005).

Since then, emotional intelligence has become a well researched topic. In the early 1990's academic psychologists Mayer, DiPaolo, & Salovey developed the concept of emotional

intelligence as an ability model and proposed that it was a real intelligence that could be measured in the same manner as IQ. Later, Mayer and Salovey refined and clarified the proposed model based on the concept that emotions contain information about a person's connection with other people or objects. These connections are can be based in memory or imagination. Any changes in the connections with other people and objects would lead to a change in the emotions the connections trigger. In light of this concept, emotional intelligence can be interpreted as the ability to process the information contained in emotions in order to determine the meaning of the emotions and to use that emotional information for thought and decision making (Mayer, Salovey, & Caruso, 2004).

Based on earlier research, Reuven Bar-On developed an emotional intelligence model in 1997 which interprets the concept of differently from Mayer and Salovey. Bar-On defines emotional intelligence as all non-cognitive abilities, knowledge, and competencies that enable a person to successfully deal with a variety of life experiences. However, it was Daniel Goleman's book, *Emotional Intelligence*, which was published in 1995 that made the concept popular with the general public. Goleman's model was based on the research of Mayer and Salovey but he expanded it to include several other skills in addition to skills they identified (Lyusin, 2006). While researching the topic, Goleman found that studies to identify the competencies needed to be successful showed that emotional competence mattered twice as much as IQ and technical expertise (Goleman, 1998).

Models of Emotional Intelligence. Three main models of emotional intelligence exist, the ability model, the mixed model, and the personality model. The most well known version of the ability model was developed by John Mayer, Peter Salovey, and David Caruso. This model perceives EI as a form of pure intelligence, in other words, a cognitive ability (Mayer et al,

2004). In this model, the cognitive abilities are clearly distinguished from qualities studied as part of personality (Brackett & Mayer, 2003). The ability model has 4 branches – emotional perception, emotional integration, emotional understanding, and emotional management which can be seen in

Figure 3. The order of the branches, from perception to management, is significant in that it identifies how much the ability is integrated into an individual's overall personality (Mayer et al, 2004). Additionally, there is a developmental progression of skills, from the basic to the more complex, within each branch (Mayer et al, 2004).

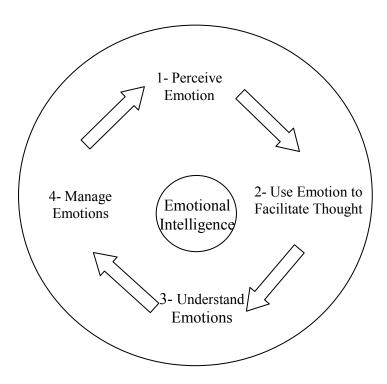


Figure 3. 4 Branch Ability Model (Mayer et al, 2004)

The first branch, perceive emotion, includes the recognition of emotions in oneself and others including the verbal and non-verbal communications (Mayer et al, 2004). The second branch, use emotion to facilitate thought, is the ability to use the perceived emotions to assist in one's thoughts and actions (Mayer et al, 2004). This branch creates the link between emotions and thinking to make decisions (Abe & Izard, 1999). These first 2 branches are distinct areas of information processing that are normally contained within a person's internal emotional processing system (Mayer et al, 2004).

The third branch, understand emotions, is the capacity to analyze the perceived emotions and understand the potential outcomes of acting on those emotions. This area typically develops as a person ages and gains life experience (Mayer et al, 2004). The fourth branch, manage emotions, combines the information processed through the first 3 branches with the context of individual goals, self-knowledge, and social awareness to create action. This also develops with age and life experiences and is dependent on the individual's goals at the specific point in time (Mayer et al, 2004).

The most recognized version of the mixed model was developed by Reuven Bar-On. This model regards emotional intelligence as a mixed intelligence which includes both cognitive ability and personality aspects. This model emphasizes how cognitive and personality factors influence general well-being. The concept was developed by logically clustering variables and identifying underlying key factors believed to determine effective and successful behaviors as well as positive emotional health (Dulewicz & Higgs, 2004). The Bar-On EQ-i model produces a total EI score, five composite scale scores and fifteen sub-scale scores. The five key factors are intrapersonal, interpersonal, adaptability, stress management, and mood as seen in

Figure 4.

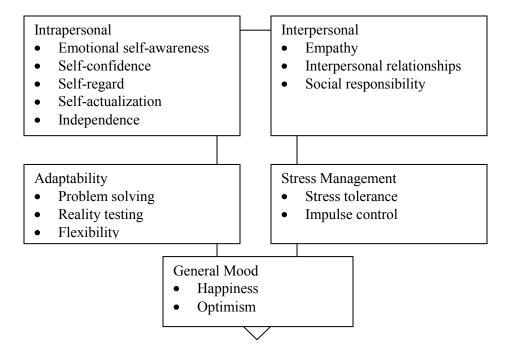


Figure 4. Bar-On's EQ-i Model of Emotional Intelligence

The first factor is the intrapersonal factor. This factor contains some of the cognitive abilities seen in Mayer and Salovey's branches 1 and 2. As part of this factor, the individual identifies their emotions and determines how to use them. However, it also contains personality factors such as self-confidence and independence as well as being dependent on the individual's goals for self-actualization. The second factor, interpersonal, bounds the variables generally used in managing relationships with others. These variables are dependent on the individual's ability to understand how their behavior affects the emotions of others. The third factor,

adaptability, focuses on an individual's ability to use emotions to resolve problems and adapt to the environment. The fourth factor, stress management, combines the environmental factors with the individual's ability to manage emotions and also meet individual goals. The last factor, general mood, has the ability to affect the other four factors depending on the individual's tendencies toward happiness and optimism.

The most recognized version of the third model, or personality model, was introduced by Daniel Goleman in a series of magazine articles and a book, Working with Emotional Intelligence. This model also defines emotional intelligence as a mixed model of intelligence which includes both cognitive ability and personality aspects. However, unlike the model proposed by Bar-On, Goleman's model focuses on how cognitive and personality factors determine workplace success (Goleman, 1998). Goleman's model of emotional intelligence is based on a wide range of emotional competencies contained within 5 constructs as seen in *Figure 5*. The combination of the constructs makes up the total emotional intelligence score, but each construct can be scored individually to determine which areas are strongest and which are weakest.

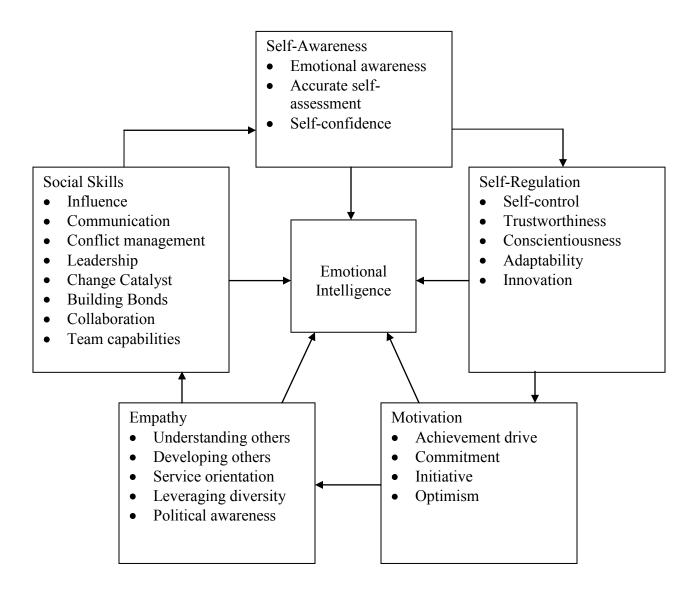


Figure 5. Goleman's Emotional Intelligence Model (Goleman, 1998)

The first construct, self-awareness, includes the same perception cognitions identified in the Mayer and Salovey model as well as the Bar-On model. Similar to the Bar-On model, the Goleman model also contains the personality competencies that make up an individual's self-confidence. This construct measures how well an individual knows their own internal states, preferences, resources and intuitions (Goleman, 1998). The second construct, self-regulation, deals with the cognitive abilities of using emotions to control one's own behavior for a specific purpose. The construct also includes personality competencies such as trustworthiness and conscientiousness as factors that influence an individual's ability to self-regulate behavior. It measures an individual's ability to manage their own internal states, impulses, and resources. The third construct, motivation, addresses the reasoning behind an individual's decision to act in a particular way. This construct measures the emotional tendencies that guide the decisions an individual makes to reach a goal. Together the first 3 constructs work together to define an individual makes to reach a goal. Together the determine how they manage their own internal emotional system. Self-awareness allows the individual to assign and assess emotions based on the situation, self-regulation identifies the actions the individual takes in the situation, and motivation describes the reasoning behind the actions.

The fourth construct, empathy, includes the cognitive functions of the awareness of others' emotions. Personality traits such as service orientation are considered to be a factor in determining how empathetic an individual is and how that empathy is shown to the other person. This construct measures an individual's awareness of the feelings, needs, and concerns of others (Goleman, 1998). The fifth construct, social skills, is the combination of how the individual uses all the information gained through self-awareness and empathy in combination with self-regulation and motivation to determine how well the individual can interact with others for a specific goal. This construct measures how well an individual uses emotional information to induce a desirable response in others (Goleman, 1998). This is the area in Goleman's model that

is distinct from the Mayer and Salovey and Bar-On model. It deals specifically with the application of the first 4 constructs to a business setting. It is in this area that Goleman claims to be able to predict an individual's aptitude for success in the business setting (Goleman, Boyatzis, & McKee, 2002).

Studies have shown that weaknesses exist in all 3 models of emotional intelligence (Matthews, Roberts, & Zeidner, 2004). One main area for concern is that there is not a single, conceptually coherent definition of the emotional intelligence construct (Matthews et al. 2004). Literature shows varying definitions of emotion including feelings, fluctuations in behavior, thoughts, evaluations of experiences, and physiological expression (Frijda, 2000). Conceptualizations of emotional intelligence include everything from an ability for processing and applying information subject to intellect governing principles (Mayer et al, 2004) to a complex interaction of emotions, mood, personality, and social conscience applied on a situational basis (Bar-On R., 2000). The ability emotional intelligence model developed by Mayer and Salovey has merit because it is believed to be a better illustrator of the cognitive processes that are involved in understanding and managing emotions (Harms & Crede, 2010). The trait based models are also important because they tend to show higher validities in leadership studies (Rajah, Song, & Arvey, 2011). However, both the mixed model and personality model show a substantial conceptual overlap with personality attributes such as those in the Five Factor Model (FFM) (Mishra & Mohapatra, 2009). Researchers believe that more empirical studies need to be completed before a definitive model can be determined as well as the applicability of using emotional intelligence to predict leadership value (Zeidner, Matthews, & Roberts, 2004). A comparison of the 3 main models of emotional intelligence can be seen in Figure 6.

EI Model	Ability Model	Mixed Model	Personality Model
Developed	Mayer and Salovey	Bar-On (1995); Dulewicz	Cherniss and Goleman
by	(1990)	and Higgs (2000)	(2001)
Defined as	The ability to accurately	Emotional and social	Emotional competencies
	perceive emotions, use	competent behavior and	including areas such as
	those emotions to assist	qualities including non-	being able to motivate
	thought, understand	cognitive capabilities,	oneself and strive to
	emotions, and regulate	competencies, and skills	overcome obstacles,
	and apply emotions to	that influence an	impulse control and delay
	promote intellectual and	individual ability to cope	gratification, to regulate
	emotional growth (Mayer	with environmental	moods and manage
	& Salovey, 1997)	demands and pressures	stress, show empathy,
		(Bar-On R., 2000)	and maintain hope
			(Goleman, 1998)
Measured	Performance test	Self report (EQ-I)	Self report
by	(MSCEIT)		
Dimensions	Perceive emotions	Intrapersonal EQ	Self-awareness
	Use emotions	Interpersonal EQ	Self-regulation
	Understand emotions	Adaptability EQ	Motivation
	Manage emotions	Stress management EQ	Empathy
		General mood EQ	Social Skills
Note: MSCEIT = Mayer-Salovey-Caruso Emotional Intelligence Test; EQ-I = Emotional			
Quotient Inventory; EQ = Emotional Quotient.			

Figure 6. Comparison of 3 main Emotional Intelligence Models (Mishra et al, 2009)

Measuring Emotional Intelligence. Many different assessment tools have been developed to measure emotional intelligence. There is no standard measurement instrument because there is not a standard conceptual definition of emotional intelligence. Therefore, each instrument is developed based on a different model and measures emotional intelligence in accordance with that model. Additionally, the instruments use different measurement approaches including performance tests, self-report inventories, or observer ratings (Mishra et al, 2009). This section will focus on the three most well-known measurement instruments.

The first instrument, the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT), was developed by Mayer, Salovey, and Caruso to replace the Multifactor Emotional Intelligence Scale (MEIS). It is based on the ability model. The MSCEIT consists of a series of tasks, 2 for each of the 4 branches (Mayer et al, 2004). The first branch, perceiving emotions, is measured by the two tasks called faces and pictures. In these tasks individuals are required to identify emotions conveyed in pictures of facial expressions and landscapes (Mayer et al, 2004). The second branch, using emotions, is measured by the two tasks called sensations and facilitation. In these tasks individuals are required to compare emotions to sensory stimuli and determine which emotions would best facilitate a specific type of thinking (Mayer et al, 2004). The third branch, understanding emotions, is measured by the two tasks called changes and blends. In these tasks individuals are required to determine which circumstances increase or decrease emotional intensity and which emotions are involved in more complex situations (Mayer et al., 2004). The fourth branch, managing emotions, is measured by the two tasks called emotion management and emotion relationships. In these tasks individuals are required to determine how they would maintain or change their emotions in a given situation and how they would manage others' emotions to achieve a particular outcome (Mayer et al, 2004).

The MSCEIT is most commonly administered by computer using a series of puzzles. The answers are then compared to a database containing answers from thousands of others as well as subject matter experts and a score is given to assist the individual in interpreting the results (Holt & Jones, 2005). As this measure is based on the definition of emotional intelligence as a cognitive ability, the end results show an individual's ability to complete specific emotional tasks rather than provide a subjective assessment of their own abilities (Mishra et al, 2009). Studies have shown that the overall reliability of the test is adequate but the reliability scores of the subscales are not good enough to make decisions about an individual or comparisons across groups (Cherniss C., 2010). Other limitations that exist with the MSCEIT include its lack of convergent validity with other emotional perception scales, the correctness of the scoring process, and the belief that it measure knowledge as much as it measures ability (Cherniss C., 2010).

The second instrument, the Emotional Quotient Inventory (EQ-I), was created by Bar-On based on his mixed model. It contains 133 questions that are answered by the individual, providing a self-reported assessment of emotional intelligence (Mishra et al, 2009). It can be administered by computer or paper and pencil and contains questions for 15 subscales that correlate to the five composite areas of Bar-On's mixed model which are Intrapersonal, Interpersonal, Stress Management, Adaptability, and General Mood. An overall total score is provided as well as scores for each of the 5 composite areas. The instrument has a 5 point rating scale for each question where a 1 is equal to a response of very seldom and 5 is equal to very often (Srivastava & Nair, 2010). While the EQ-I is designed to be distinct from other measures of personality such as the FFM, studies have shown that it contains several variables that overlap with conventional personality models (MacCann, Matthews, Zeidner, & Roberts, 2003).

The reliability estimates across studies is variable which suggests that the EQ-I may be more applicable when used with certain populations (Mishra et al, 2009). Additionally, the reliability of the individual subscales is poor which suggests that decisions about individuals should not be made based on those scores (Bar-On R., 1997). Additionally, a weakness with the EQ-I is that it is a self-report instrument. This could be a problem if the individual is a poor judge of their own abilities, particularly when the ability is highly valued. Bar-On has attempted to correct for this problem but studies have demonstrated that it is possible to shift EQ-I scores by inaccurately reporting abilities (Cherniss C., 2010).

The third instrument, the Emotional and Social Competence Inventory (ESCI), was developed by Boyatzis, Goleman, and Rhee to replace the Emotional Competence Inventory (ECI). It is based on the personality model. The ESCI is a self-report measure that contains questions to assess 12 competencies organized into 4 clusters: Self-Awareness, Self-Management, Social Awareness, and Social Management (Mishra et al, 2009). This is a change from the original 5 constructs, Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills, that Goleman identified as part of emotional intelligence (Holt & Jones, 2005). In addition to the self-report measurement, versions are available that can be completed by managers, peers, and subordinates of the individual, similar to a 360° evaluation (Mishra et al, 2009). Since it is based on the personality model, the ESCI is intended to measure an individual's ability to recognize, understand, and use emotional information about oneself and others to increase effective performance (Boyatzis, 2009).

The internal consistency of the scores for each cluster varies by the type of rater. Total self-assessment scores are adequately consistent but individual subscales can range from poor to adequate so they should not be used by themselves to make decisions about an individual

(Mishra et al, 2009). Assessments completed by raters other than the individual have a higher consistency rating for the clusters as well as better subscale consistency. The developers of the ESCI strongly recommend using a variety of raters to get a more accurate picture of an individual. As with any self-report tool, it is possible for the individual to inaccurately assess themselves, leading to a discrepancy between the self-assessment ratings and the ratings of others (Mishra et al, 2009). Although the ratings by others can also suffer from bias, the general result is a balanced assessment when a variety of types of raters is used (Cherniss C. , 2010). Similar to the EQ-I, the ESCI has some overlap with traditional personality models such as the FFM. One additional limitation to both the EQ-I and ESC is the lack of contextual reference. Research has shown that an individual's behavior can vary significantly depending on the situation and setting (Cherniss C. , 2010). Therefore, most emotional intelligence instruments may not accurately measure the behavior of an individual in real-life situations.

In summary, the variety of instruments available to measure emotional intelligence is numerous. However, each of the instruments has distinct limitations and questionable validity to real-life situations. Each instrument is reflective of the conceptual model they support but experts have not yet converged on a definitive model for emotional intelligence. In an effort to bring more visibility and validity to the subject the Consortium for Research on EI in Organizations has been established.

Effect of Emotional Intelligence on Job Performance

Many controversial claims have been made by researchers about the link between emotional intelligence and workplace factors such as job performance and leadership effectiveness (Antonakis, Ashkanasy, & Dasborough, 2009). Goleman (1998) claims that emotional competencies are twice as important as intellect and expertise in creating excellence in

the workplace. Other studies have shown that a leader's ability to genuinely respond to followers' emotions significantly enhance the followers' positivity toward organizational change (Smollan & Parry, 2011). Still other studies have shown that the emotional intelligence of leaders was associated with increased employee job satisfaction (Wong & Law, 2002). According to one study, individuals with high EQ experience greater success in their careers, build stronger personal relationships, are more effective leaders, and are healthier than individuals with low EQ (Cooper, 1997).

However, other studies have found that there are many questions about what really drives the perceived increase in job performance due to the lack of a definitive definition for the concept of emotional intelligence (Cherniss C., 2010). The empirical proof necessary to make a definitive conclusion about the applicability of emotional intelligence on workplace effectiveness is not adequate (Matthews et al, 2004). According to some researchers, much of the evidence supporting the claims of success are based on subject matter expert opinion and are not published in peer-reviewed literature (Barrett, Miguel, Tan, & Hurd, 2001). Most of the controversy stems from the competing definitions of emotional intelligence and the assertions that personality factors should not be included. The overall conclusion from most researchers is that there is a benefit from all research because it raises awareness and visibility of the importance of emotions in human behavior, motivating leaders to take emotional issues more seriously (Matthews et al, 2004).

Most leaders could be described as transactional, transformational, or laissez-faire.

Transactional leadership occurs when leaders and their followers interact by exchanging something for a reward, or avoidance of negative consequence, to meet a need (Hughes, Ginnett, & Curphy, 2012). Transformational leadership occurs when the leader changes the current

situation by appealing to the followers' values and sense of higher purpose to accomplish a goal (Hughes et al, 2012). Laissez-faire leadership, considered the least effective form of leadership, occurs when leaders provide a minimum amount of guidance and allow followers to make the decisions (Hughes et al, 2012). The right type of leadership needed is typically dependent on the situation but most people believe that transformational leaders are the most desirable.

Today's workplace includes many challenges including rapid change, a need for innovation, managing massive amounts of data, creating customer loyalty, motivated and committed employees, collaborative efforts, diverse workforce with diverse talents, developing tomorrow's leaders, recruiting new talent, wise decision making, developing strategic alliances, and preparing employees for a global working environment (Cherniss C., 2001). Due to these challenges, transformational leadership appears to be the most applicable type of leadership needed. Competencies measured as part of emotional intelligence in all constructs have been shown to positively predict job performance in high emotional labor settings (Newman, Joseph, & MacCann, 2010). Emotional labor settings are defined as the degree to which employees are expected to express positive emotion as part of the job (Grandey, 2003). Historically, high emotional labor settings would generally be considered any type of customer service organization. Today's workplace environment, specifically the U.S. Army TACOM, is centrally focused on serving a customer albeit a non-traditional customer. Therefore, the U.S. Army TACOM would be considered a high emotional labor setting.

Transformational leaders can be characterized by four components known as the 4 I's – idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration - of transformational leadership (Avolio, Waldman, & Yammarino, 1991). Idealized influence is demonstrated by a leader who acts as a role model to followers thereby

earning their admiration and respect (Bass, 1990). This behavior can also be referred to as charisma and relies heavily on the use of both verbal and non-verbal communication skills (Shamir, Zacay, Breinin, & Popper, 1998). Emphasizing the importance of tasks, encouraging teamwork, encouraging high expectations about performance and communicating those expectations would be behaviors of a leader displaying inspirational motivation (Bass, 1985). Often symbolism and emotional attachments are used to inspire followers to suppress self-interest for the betterment of the group goals (Bass, 1985). Individualized consideration is displayed when a leader engages in the development of the followers and their individual career needs. Communication, listening, mentoring, and providing constructive feedback are essential skills to for demonstrating consideration (Bass, 1985). The fourth I, intellectual stimulation, occurs by encouraging followers to think critically, question assumptions, and engage in innovation. Leaders who do this effectively promote the development of effective problemsolving skills (Bass, 1985).

In order to stimulate a transformational organizational culture, leaders need to be able to create an environment with a shared purpose and feelings of trust (Bass & Avolio, Transformational leadership and organizational culture, 1993). Also, studies have shown that leaders that form an emotional attachment with their followers enhance the quality of their relationships and the organizational effectiveness of the team (Livingstone, Nadjiwon-Foster, & Smithers, 2002). The mixed and personality models directly measures influence, motivation, and consideration of others. Using the mixed model of emotional intelligence, a significant linear relationship was found between emotional intelligence and transformational leadership style (Mandell & Pherwani, 2003). Additionally, transformational leadership contains an inherent emotional element (Bass, 1990). This indicates that it would be possible to use an individual's

emotional intelligence score to predict whether or not they have a transformational leadership style.

Demographic Factors

It would seem that many demographic factors could have the possibility to affect an individual's emotional intelligence. However, only a few demographic factors have been studied with any depth – gender, age, and work experience. Stereotypically, women are portrayed as being more conversant in emotional languages than men. Therefore, it is a commonly held belief that women are better at sensing their own and others' emotions as well as expressing their emotions. However, results for correlating gender with emotional intelligence appear to be inconclusive. All 3 of the most popular measurement instruments, the MSCEIT, the EQ-I, and the ESCI/ECI, have been used with varying results. Using the MSCEIT, some studies have shown that women score slightly higher than men in emotional intelligence (Zeidner et al, 2009). Yet there are other studies using the MSCEIT and ECI that show no difference in emotional intelligence scores between the genders (Newland & Mehta, 2009) (Hopkins & Bilimoria, 2008). Another study using the EQ-I also found that the mean emotional intelligence score for women was slightly higher than the mean emotional intelligence score for men (Mandell & Pherwani, 2003). One study using an independently developed instrument showed that there were differences between the genders in managing and controlling emotions but no significant differences overall (Lyusin, 2006). Other studies using independently developed instruments showed that there was no difference in the emotional intelligence scores for men and women (Esmond-Kiger, Tucher, & Yost, 2006).

Logically, one would expect that age and work experience would have a positive correlation with increased emotional intelligence scores. Age has been studied for children and

adolescents but those studies are not being considered in this research. The youngest age group studied for adult research was 20-30 years old (Roy & Chaturvedi, 2011). Studies have shown mixed results on the effect of age on emotional intelligence scores. Salovey and Mayer have found a strong, steady increase in emotional intelligence scores from adolescence to age 50, with a peak coming in the 40s (Salovey & Mayer, 1990). One study, using the ESCI/ECI, found that a noticeable improvement in emotional intelligence score was found in individuals over the age of 29 as compared to individuals in the 25 year age group (Roy et al, 2011). However, another study, using the MSCEIT, found no significant correlation between age and emotional intelligence scores (Cook, Bay, Visser, Myburgh, & Njoroge, 2011). Few empirical studies have been completed regarding the connection between work experience and emotional intelligence but the ones that have been completed conclude that more work experience positively correlate with increased emotional intelligence scores (Cook et al, 2011) (Roy et al, 2011). This agrees with the research of Goleman, Salovey, Mayer, Caruso, and Bar-On.

Training Emotional Intelligence

Although researchers do not agree on how to conceptually define or measure emotional intelligence, interest in developing emotional intelligence in leaders has grown exponentially since the publishing of Goleman's book in 1995 (Weis & Arnesen, 2007). Due to the level of interest in this topic, researchers are studying potential methods of teaching individuals how to be more emotionally intelligent. Results of the studies have been mixed regarding what methods of teaching work best but the studies have reported that an increase in emotional intelligence score is positively correlated to the teaching (Dulewicz et al, 2004). Additionally, studies show that exposure to the concept of emotional intelligence positively correlates to higher emotional intelligence scores (Esmond-Kiger, Tucher, & Yost, 2006).

One thing that is clear in studies regarding training is that traditional, lecture-type training does not work for developing increased emotional intelligence (Dearborn K., 2002). One of the most effective places to start emotional intelligence training may be in universities. Many universities are starting to develop training programs for their students because they have found that increased emotional intelligence training has brought increased job opportunities for their students as well as an increase in enrollment in the programs (Abraham, 2006). One model that would appear to be effective in teaching emotional intelligence is Kolb's experiential learning cycle (Kolb & Kolb, 2005). The learning is evaluated as a process which can be seen in Figure 7.

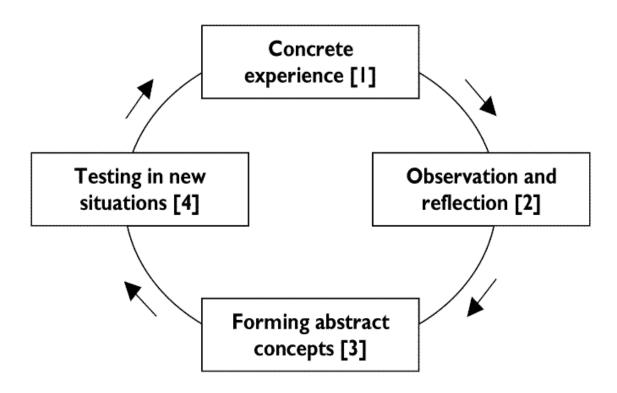


Figure 7. Kolb's Experiential Learning Cycle

Using the experiential process allows the individual to create knowledge by experience. Since it has been shown that experience positively correlates with increased emotional intelligence it would logically follow that individuals would increase their emotional intelligence by using a training program that allows them to experience the teaching.

Chapter 3 – Research Methodology

The research methodology used to answer the research questions and test the hypotheses are described in detail in this chapter. The statement of purpose, research questions and hypotheses being studied are presented. The TACOM population being surveyed and the sample are identified. Next, the research procedures being used are presented including IRB approval, the survey instrument, the pilot study, and data collection.

This research is important because it will identify the areas of emotional intelligence that TACOM leaders report as their strongest areas and which areas are the weakest. Additionally, it will identify which training classes have contributed the most to the development of emotional intelligence. In areas where weaknesses are identified, additional training programs or training focus may be available. Where the existing training available is shown to be most beneficial, future TACOM leaders can be encouraged to attend those programs. If other demographic factors, such as experience, military experience, gender, or age, are shown to be significant, training programs may be able to be customized to provide for those specific needs.

Statement of Purpose

The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Other factors such as leadership experience, gender, and military background will be examined to determine their effects on emotional intelligence. The research will compare the EI scores to the years of leadership experience to determine if it has a significant effect. The research will also compare the EI scores of men and women to determine if gender has an impact. It will also compare the EI scores of those with military experience and those without to determine whether the military experience has an impact on the EI score. Once

the most significant factors and most effective training programs in developing EI have been identified, potential training options and other programs for developing EI can be developed.

Research Questions

The primary focus of this paper is to determine how emotionally intelligent TACOM senior leaders are.

Secondary questions include:

- Can the amount of training taken be linked to higher EI in TACOM senior leaders?
- Does military experience make a significant difference in EI in TACOM senior leaders?
- Does gender make a significant difference in EI in TACOM senior leaders?
- Does age make a significant difference in EI in TACOM senior leaders?
- Does the amount of leadership experience make a significant difference in EI in TACOM senior leaders?

Research Hypothesis

The following hypotheses will be tested for this research project:

- H_{0A}: The amount of training does not have a significant effect on EI of TACOM senior leaders
- H_{0B}: Military experience does not have a significant effect on EI of TACOM senior leaders
- H_{0C}: There is no difference in the EI of male and female senior leaders at TACOM
- H_{0D} : Age does not have a significant effect on the EI of TACOM senior leaders
- H_{0E}: The years of leadership experience does not have a significant effect on EI of TACOM senior leaders

Research Design

In accordance with federal regulations pertaining to the use of human participants in research, the researcher is required to gain approval from the Institutional Review Board (IRB) at Lawrence Technological University (LTU) prior to the collection of data. These regulations provide guidelines to protect the rights and welfare of individuals as it relates to their voluntary and confidential participation in this research. Completion of the IRB Application for Approval to Conduct Research with Human Participants, the LTU Consent Form, and the LTU Confidentiality Agreement are required for research approval. The IRB application for this research survey was submitted on December 07, 2011. The IRB approved the application for this research on December 22, 2011 for a period of one year. The IRB approval letter is at Appendix A – IRB Approval Letter. The Informed Consent Form on the first page of the survey informed the participants that their participation was completely voluntary, that their responses would be anonymous, they did not have to answer any questions they didn't want to answer, and that they could stop at any time during the survey.

Survey Instrument

This study uses a mixed methods methodology that includes both quantitative and qualitative research methods. The quantitative method was used in this study to conduct the research because it allows the researcher to create a larger data base that is more representative of the population being studied. It also allows the researcher to statistically compare the responses to the survey. The survey instrument can be found in Appendix B – Research Survey.

The survey questions were developed by the researcher to answer the research questions being studied based on the review of the literature in Chapter Two and to test the hypotheses.

The survey started with 7 demographic questions. The survey then asked respondents to answer

26 self-assessment questions using a 5 point Likert response format. Three questions regarding training were asked. The first training question required respondents to identify training that they had received prior to, undergraduate and graduate classes, and during their tenure at TACOM. The potential training options included specific courses taught by DAU and other sources contracted by the Army to provide leadership training as well as any training provided by academic institutions as part of a bachelor or master degree program. Additionally, the question provided a place for respondents to identify any other training not listed. The second training question required respondents to assess the amount of influence the aggregate training had on specific areas of their emotional intelligence using a 5 point Likert response format. The third question asked the respondents to rank the specific training programs they have received, from 1 to 5, based on the perceived influence of each class on their emotional intelligence. The survey concluded with one open- ended question. Survey Monkey was the online tool used for collecting survey responses.

As shown in Appendix B – Research Survey, the survey has one question with 26 self-report statements to assess the 5 constructs of emotional intelligence – Self-Awareness, Self-Regulation, Empathy, Motivation, and Social Skills. All 26 statements required one answer and each statement addressed a specific construct. The questions were arranged according to *Figure 8* below.

Question #
10-1,10-6, 10-11, 10-16,
10-21
10-2, 10-7, 10-12, 10-17,
10-24
10-3, 10-8, 10-13, 10-18,
10-22
10-4, 10-9, 10-14, 10-19
10-5, 10-10, 10-15, 10-20
10-23, 10-25, 10-26

Figure 8. Emotional Intelligence Constructs Assessed by Question Number

The Survey Monkey web site was used to administer the survey using an email invitation. This method allowed the researcher to track the total number of responses as well as determine the total number of valid responses. A response was considered valid if the respondent answered all of the mandatory questions. The mandatory questions were the informed consent form, 3 demographic questions (gender, age, and experience), emotional intelligence self-assessment question, and 2 training questions (training received and effect of training on emotional intelligence). An initial email and a reminder were sent during a two week period. The Survey Monkey emails provided a specific hyperlink for the recipients to access the survey. This method allows the researcher to track whether or not a recipient completed the survey, either partially or fully, as well as whether or not they opted out of completing the survey or receiving any additional emails regarding the survey. All data received from the respondents was kept anonymous from the researcher.

Survey Participants

The population surveyed for this study was the senior TACOM leadership spread across five separate organizations. Senior is defined as being at a grade level of GS-14, or equivalent, and above. The five organizations surveyed were the Army Contracting Command (ACC), Tank Automotive Research Design and Engineering Center (TARDEC), the Integrated Logistics Support Center (ILSC), the Program Executive Office for Ground Combat Systems (PEO-GCS) and the Program Executive Office for Combat Support and Combat Service Support (PEO-CS&CSS). The researcher was provided a list of names of all GS-14 equivalents and above, including military ranks MAJ and above, from each of these organizations. The total population of GS-14 equivalents and above is 907 people. Using the TACOM global address book, the researcher obtained the email addresses for 80% of the names provided as of December 2011. The total population sampled was 726 people which included the SES level leadership for each organization. The survey was sent to the entire population. In order to obtain a 95% confidence with a 5% margin of error, a total of 194 responses were needed. There were 204 valid responses received. The equation used to determine the valid response requirement can be found in Figure 9 (Stat Trek, 2012). Values used in the equation are shown in Figure 10.

$$n = [(Z^2 * p * q) + ME^2]/[ME^2 + Z^2 * p * q/N]$$

Figure 9. Sample size equation

Variable	Value
n	Sample size needed
Z	1.96 (for 95% confidence)
р	0.80 (portion of population surveyed)
q	1-p
ME	0.05 (margin of error)
N	907 (total population)

Figure 10. Values used for sample size equation

Pilot Study Procedure

A pilot study was conducted to test and refine the survey instrument and its administration. First, the survey was sent to one LTU professor and three Defense Acquisition University (DAU) professors for feedback. The feedback was collected and used to revise the survey by rephrasing questions for clarity, additional questions for use in hypothesis testing, and combining questions to reduce the overall length of the survey. Next, an online pilot survey was conducted using the 2011-12 Senior Service College Fellows as the surveyed population. A total of 26 individuals were surveyed, 13 individuals responded. Based on the total feedback received from the professors and pilot study, minor changes and clarifications were made. The survey was then finalized and sent to the 721 participants on January 5, 2012.

Descriptive Statistical Analysis

Descriptive statistics were used to describe the respondents and provide data on the population surveyed. The demographic categories are gender, age, education, military service, and leadership experience. Gender and military experience responses were divided into two categories each. The age, education, and leadership experience responses were divided into four, five, and four categories respectively. The emotional intelligence self-report questions were

combined into Goleman's five constructs a) Self-Awareness, b) Self-Regulation, c) Motivation, d) Empathy, and e) Social Skills.

Inferential Statistics

The statistical analysis methods used to test the hypotheses were T-Test and analysis of variance (ANOVA) at the 95% confidence level. An ANAOVA at the 95% confidence level was used to test hypotheses that contained more than two groups for comparison. A T-Test at the 95% confidence level was used to test hypotheses that contained only two groups for comparison. *Figure 11* shows the statistical test used for each hypothesis.

Hypothesis	Statistical Analysis Used
H _{0A} : The amount of training does not have a significant effect on EI	ANOVA
of TACOM senior leaders	
H _{0B} : Military experience does not have a significant effect on EI of	T-Test
TACOM senior leaders	
H_{0C} : There is no difference in the EI of male and female senior	T-Test
leaders at TACOM	
H_{0D} : Age does not have a significant effect on the EI of TACOM	ANOVA
senior leaders	
H_{0E} : The years of leadership experience does not have a significant	ANOVA
effect on EI of TACOM senior leaders	

Figure 11. Statistical Analysis Tool Used for Each Hypothesis

Summary

This chapter discussed the research methodology used to test the hypotheses identified as well as answer the research questions. It started with the statement of purpose, research questions, and hypotheses. Next, the sample population surveyed was described. The

procedures used to conduct the research were discussed including IRB approval, the survey instrument, the pilot survey, and the data collection methods. This chapter also described the data analysis methodology, including the validity of the survey instrument and the methods used for quantitative analysis of the collected data. The results are presented in Chapter 4 – Findings.

Chapter 4 – Findings

Introduction

The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Other factors such as leadership experience, gender, and military background will be examined to determine their effects on emotional intelligence. The research will compare the EI scores to the years of leadership experience to determine if it has a significant effect. The research will also compare the EI scores of men and women to determine if gender has an impact. It will also compare the EI scores of those with military experience and those without to determine whether the military experience has an impact on the EI score. Once the most significant factors in developing EI have been identified, potential training options and other programs for developing EI can be developed.

The following research questions were tested during this research:

- How emotionally intelligent are TACOM senior leaders?
- Can the amount of training taken be linked to higher EI in TACOM senior leaders?
- Does military experience make a significant difference in EI in TACOM senior leaders?
- Does gender make a significant difference in EI in TACOM senior leaders?
- Does age make a significant difference in EI in TACOM senior leaders?
- Does the amount of leadership experience make a significant difference in EI in TACOM senior leaders?

The following hypotheses were tested during this research:

- H_{0A}: The amount of training does not have a significant effect on EI of TACOM senior leaders
- H_{0B}: Military experience does not have a significant effect on EI of TACOM senior leaders
- H_{0C} : There is no difference in the EI of male and female senior leaders at TACOM
- H_{0D} : Age does not have a significant effect on the EI of TACOM senior leaders
- H_{0E}: The years of leadership experience does not have a significant effect on EI of TACOM senior leaders

This chapter presents the results of the research. The objective is to answer the research questions and test the hypotheses. The survey results have been analyzed and summarized to show any statistically significant differences that reject or fail to reject the hypotheses. This chapter discusses the descriptive and inferential statistical results for the survey questions, as well as the ranking of training courses as they apply to improving emotional intelligence.

First the descriptive statistics for the surveyed population are presented. Then an analysis of the emotional intelligence of TACOM senior leaders is presented based on the 26 EI survey questions. These questions were grouped into five EI competency categories – Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills.

Following the emotional intelligence data, the responses to the training questions are presented. The responses were analyzed to determine how many training classes TACOM senior leaders have taken and which classes were identified as providing the most contribution to emotional intelligence. Based on the data, respondents were organized into groups based on the number of training classes taken. An ANOVA was completed to determine if there is any statistically significant difference between the groups. This analysis allowed the researcher to

test the hypothesis H_{0A} . The two open-ended training questions were analyzed to determine if training classes not listed in the survey contributed to an increase in the emotional intelligence of TACOM senior leaders.

The researcher then used the demographic data provided to analyze the EI of TACOM senior leaders. A statistical comparison was made between the EI of leaders that had military experience and those that did not. A T-test was used to determine if there is any statistically significant difference between the two groups. This analysis allowed the researcher to test hypothesis H_{0B} . Next, a statistical comparison was made between the scores of the male and female leaders. A T-test was used to determine if there is any statistically significant difference between the two groups. This analysis allowed the researcher to test hypothesis H_{0C} . The data provided by the respondents was then categorized into groups based on age. An ANOVA was completed to determine if there is a statistically significant difference between the groups. This analysis allowed the researcher to test hypothesis H_{0D} . The data provided by the respondents was then categorized into groups based on the amount of leadership experience. An ANOVA was completed to determine if there is a statistically significant difference between the groups. This analysis allowed the researcher to test hypothesis H_{0E} .

Finally, an analysis of the themes developed from the open-ended questions was summarized. Specifically, the open ended questions were analyzed to determine if TACOM senior leaders felt that adequate training is provided in the area of emotional intelligence.

Descriptive Statistics

The gender distribution of the respondents was 23% female and 77% male, which can be seen in Figure 13. The researcher validated this data by evaluating the percentage of women leaders in leadership positions in non-profit organizations in the US. This is in line with

statistics of 21% of women in leadership positions in nonprofit organizations (The White House Project, 2009).

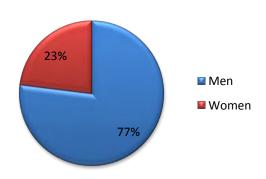


Figure 12. Gender Distribution

The distribution of the respondents by age can be found in Figure 13. The largest population of respondents, 49%, was between the ages of 50-59 years old. The second largest population of respondents, 36%, was between the ages of 40-49 years old.

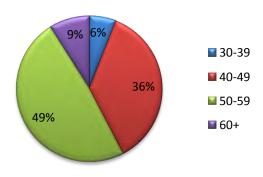


Figure 13. Gender and Age Distribution

The distribution of respondents by education can be found in Figure 14. The largest population of respondents, 57%, has completed a master degree program. The second largest population of respondents, 33%, has completed a bachelor's degree program. The distribution of respondents by military service can be found in Figure 15. It shows that 42% of the respondents have served in the U.S. military and 58% have not served.

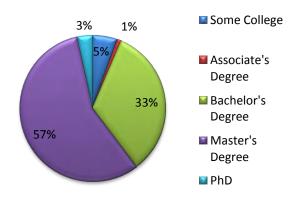


Figure 14. Level of Education Distribution

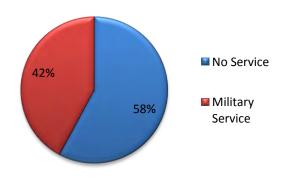


Figure 15. Military Service Distribution

The distribution of the respondents by leadership experience can be found in *Figure 16*. The largest population of respondents, 50%, has more than 15 years of leadership experience. The second largest population of respondents, 22%, has between 5-10 years of leadership experience.

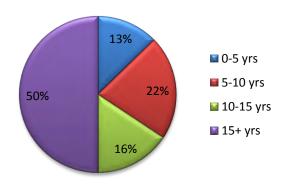


Figure 16. Leadership Experience Distribution

Emotional Intelligence Data

The first research question asks: How emotionally intelligent are TACOM senior leaders. As shown in Appendix B – Research Survey a total of 26 questions were asked to determine the respondents' self-reported emotional intelligence using a five point Likert scale for each question. These questions were categorized into five main sub-constructs – Self-Awareness, Self-Regulation, Motivation, Empathy, and Social Skills. Using the data provided from the survey results, the percentage of the population that scored in each interpretive category can be seen in Figure 17 below. Figure 18 shows the interpretive guideline for determining the EI for each respondent. This scale was developed based on the literature review of self-report measures

and the maximum score possible for the survey administered. These data answer the research question – How emotionally intelligent are the TACOM senior leaders.

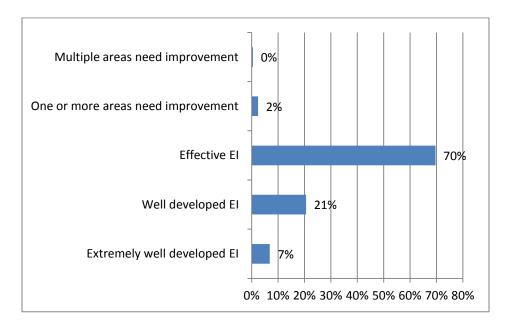


Figure 17. EI by Interpretive Category

Standard		
Score	Interpretive Guideline	
120-130	Extremely well-developed emotional and social functioning	
110-119	Well-developed emotional and social functioning	
	Effective emotional and social functioning, some areas could be	
90-109	improved	
80-89	One or more areas may need improvement	
<80	Multiple areas need improvement	

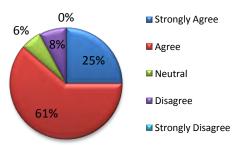
Figure 18. Interpretive Guideline for Determining EI

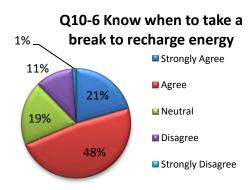
The majority of the responses, 70%, show that TACOM senior leaders have effective emotional and social functioning. This is consistent with the findings of a recent survey of TACOM employees. That survey showed that the majority of survey respondents were very

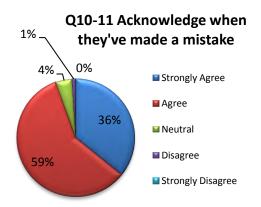
satisfied or satisfied with the emotional intelligence displayed by TACOM senior leaders (Marck, 2012).

The first sub-construct of EI, Self-Awareness, was assessed by questions 10-1, 10-6, 10-11, 10-16, and 10-21. *Figure 19* below shows the responses to those questions. Question 10-1 shows that 86% of the respondents agree or strongly agree that they are always aware of the emotions they are feeling. Question 10-6 shows that 69% of the respondents agree or strongly agree that they know when to take a break in order to recharge their energy. Question 10-11 shows that 95% of respondents agree or strongly agree that they acknowledge when they've made a mistake. Question 10-16 shows that 95% of the respondents agree or strongly agree that they apologize for mistakes when they make them. Question 10-21 shows that 93% of the respondents agree or strongly agree that they are willing to take calculated risks. The mean score for TACOM senior leaders in the Self-Awareness sub-construct was 21 with a standard deviation of 2.11. The maximum score possible is 25, which 2% of the respondents scored.

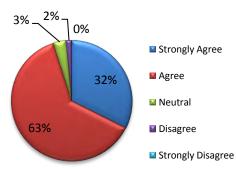
Q10-1 Always aware of what emotions they are feeling













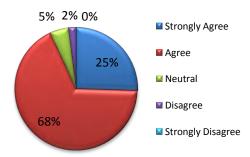


Figure 19. Responses to Self-Awareness Sub-Construct Questions

The second sub-construct of EI, Self-Regulation, was assessed by questions 10-2, 10-7, 10-12, 10-17, and 10-24. *Figure 20* below shows the responses to the questions.

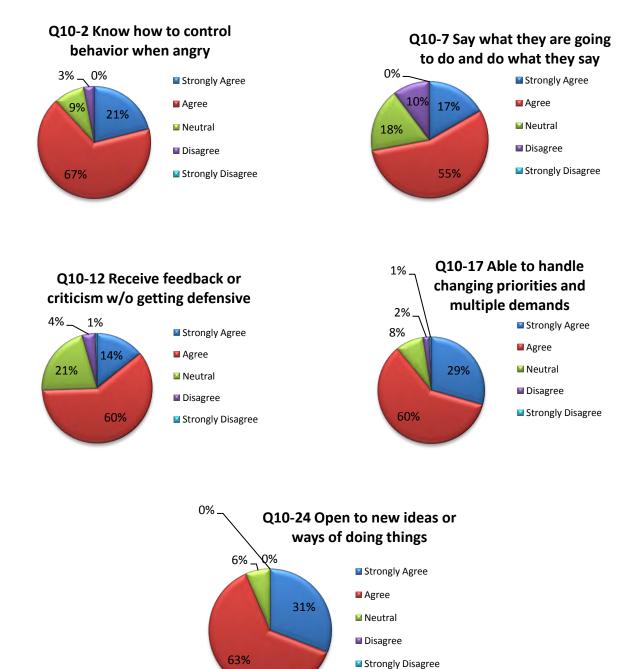


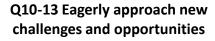
Figure 20. Responses to Self-Regulation Sub-Construct Questions

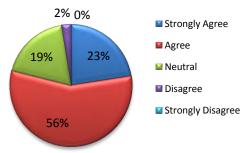
Question 10-2 shows that 88% of the respondents agree or strongly agree that they know how to control their behavior when they are angry or upset. Question 10-7 shows that 72% of respondents agree or strongly agree that they say what they are going to do and always do what they say. Question 10-12 shows that 74% of respondents agree or strongly agree that they can receive feedback or criticism without getting defensive. Question 10-17 shows that 89% of respondents agree or strongly agree that they are able to handle changing priorities, multiple demands, and rapid changes. Question 10-24 shows that 94% of respondents agree or strongly agree that they are open to new ideas or ways of doing things when approached by others. The mean score for TACOM senior leaders in the Self-Regulation sub-construct was 20 with a standard deviation of 2.09. The maximum score possible is 25, which 2% of the respondents scored.

The third sub-construct, Motivation, was assessed by questions 10-3, 10-8, 10-13, 10-18, and 10-22. *Figure 21* below shows the responses to the questions. Question 10-3 shows that 92% of respondents agree or strongly agree that they set challenging goals for themselves and their team. Question 10-8 shows that 77% of respondents agree or strongly agree that they stay focused on meeting the goals they set. Question 10-13 shows that 79% of respondents agree or strongly agree that they eagerly approach new challenges and opportunities. Question 10-18 shows that 87% of respondents strive to accentuate the positive results in spite of obstacles or setbacks. Question 10-22 shows that 99% of respondents lead by example. The mean score for TACOM senior leaders in the Motivation sub-construct was 21 with a standard deviation of 2.08. The maximum score possible is 25, which 3% of the respondents scored.









Q10-18 Strive to accentuate the positive results in spite of obstacles

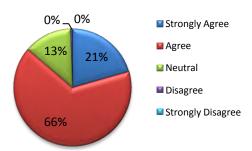




Figure 21. Responses to Motivation Sub-Construct Questions

The fourth sub-construct, Empathy, was assessed by questions 10-4, 10-9, 10-14, and 10-19. *Figure 22* below shows the responses to the questions.

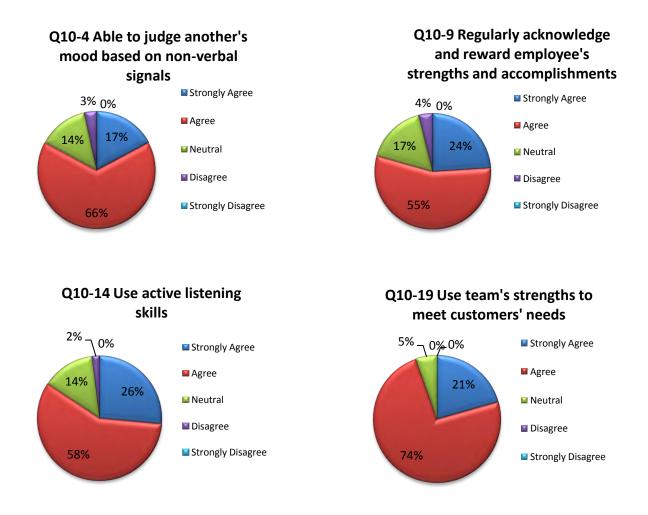
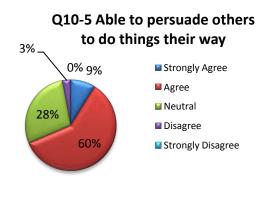


Figure 22. Responses to Empathy Sub-Construct Questions

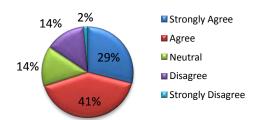
Question 10-4 shows that 83% of respondents agree or strongly agree that they can judge another's mood based on their non-verbal signals. Question 10-9 shows that 79% of respondents regularly acknowledge and reward employee's strengths and accomplishments. Question 10-14 shows that 84% of respondents use active listening skills. Question 10-19 shows that 95% of respondents know how to use their team's strengths to meet customers' needs. The mean score UNCLASSIFIED

for TACOM senior leaders in the Empathy sub-construct was 16 with a standard deviation of 1.67. Of the respondents, 3% scored the maximum score possible of 20 for this construct.

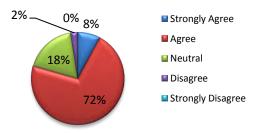
The fifth sub-construct, Social Skills, was assessed by questions 10-5, 10-10, 10-15, 10-20, 10-23, 10-25, and 10-26. *Figure 23* below shows the responses to the questions. Question 10-5 shows that 88% of the respondents agree or strongly agree that they are able to persuade others to do things their way. Question 10-10 shows that 70% of the respondents agree or strongly agree that they are comfortable speaking or presenting to large groups. Question 10-15 shows that 80% of respondents agree or strongly agree that they are able to resolve conflicts effectively.



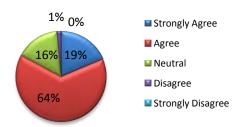
Q10-10 Comfortable speaking or presenting to large groups



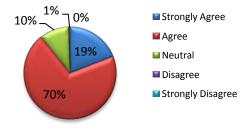
Q10-15 Able to resolve conflicts effectively



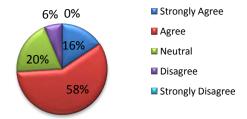
Q10-20 Able to inspire and encourage others



Q10-23 Others respect their opinion even if they don't agree



Q10-25 Able to stay relaxed and composed under pressure



Q10-26 Able to build shared goals amongst their team

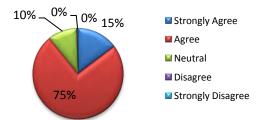


Figure 23. Responses to Social Skills Sub-Construct Questions **UNCLASSIFIED**

Question 10-20 shows that 83% of respondent agree or strongly agree that they are able to inspire and encourage others. Question 10-23 shows that 89% of respondents agree or strongly agree that others respect them and their opinion even if they don't agree with that opinion. Question 10-25 shows that 74% of respondents agree or strongly agree that they are able to stay relaxed and composed under pressure. Question 10-26 shows that 90% of respondents agree or strongly agree that they are able to build shared goals amongst their team. The mean score for TACOM senior leaders in the Social Skills construct was 27 with a standard deviation of 3.05. Of the respondents, 1% scored the maximum possible score of 35 for this sub-construct.

Overall, the results show that TACOM senior leaders report that they agree or strongly agree that they have the capabilities that make up emotional intelligence. Across all five subconstructs, TACOM senior leaders have effective emotional intelligence. They score highest in the Self-Awareness and Motivation constructs with an average of 21 out of a possible 25 in both constructs. They score lowest in the Empathy construct with an average of 16 out of a possible 20 points.

Training Data

The survey respondents were asked three questions regarding leadership training. The first question asked respondents to identify any leadership training they had received, including leadership classes offered as part of a degree program that they may have participated in prior to beginning their career at TACOM. *Figure 24* below shows the percentage of the respondents that have received the different leadership training courses.

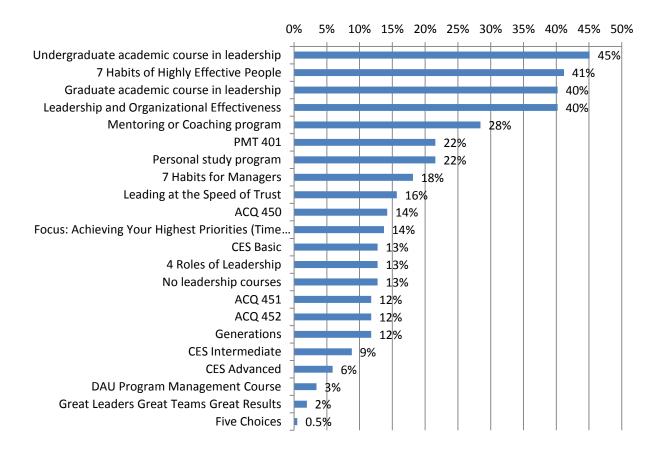


Figure 24. Leadership Training Received by Respondents

The leadership training received by the highest percentage of the respondents, 45%, was undergraduate courses in leadership. The second highest percentage of the respondents, 41%, has received the Franklin Covey 7 Habits of Highly Effective People course. The leadership training received by the third highest percentage of the respondents, 40%, was tied between graduate courses in leadership and the Franklin Covey Leadership and Organizational Effectiveness class. Of the respondent population, 13% have received no leadership training courses.

If respondents had received training other than the listed options, an open-ended response box was provided for them to identify the specific training. The data show that many

respondents have received leadership training, primarily in the six courses shown in *Figure 25* with the percentage of respondents receiving each of these training courses.

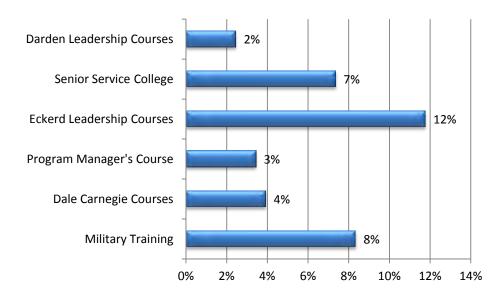


Figure 25. Other Leadership Courses Received

Respondents were next asked to identify how much of an increase in emotional intelligence could be attributed to the aggregate training received. *Figure 26* below shows how respondents rated the increase in their abilities to identify their leadership strengths and weaknesses.

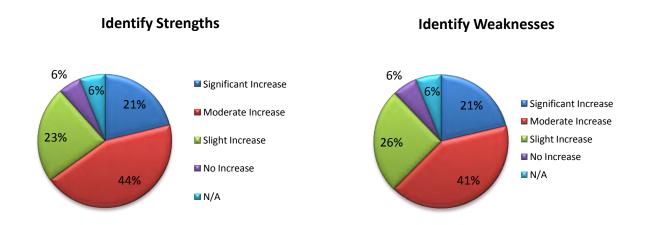


Figure 26. Training Effect on Identification of Leadership Strengths and Weaknesses

Overall, 88% of respondents answered that the training received provided some increase, 65% reported a moderate or significant increase in their ability to identify their leadership strengths and weaknesses. *Figure 27* below shows how respondents rated the increase in their abilities to identify their own and others' emotional triggers. Overall, 68% of respondents answered that the training they received provided some increase, and 37% reported a moderate or significant increase in their ability to identify their own emotional triggers. Seventy-seven percent of respondents answered that the training provided some increase, and 43% reported a moderate or significant increase in their abilities to identify emotional triggers in others.

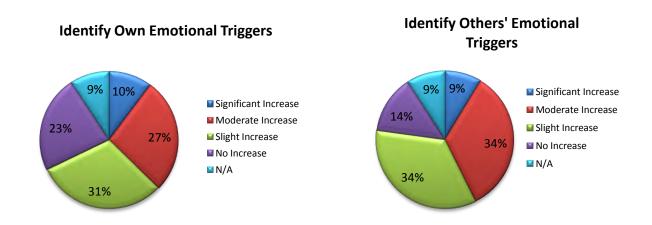
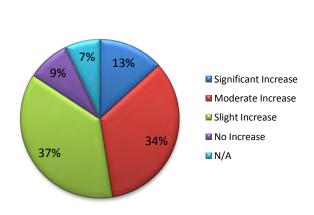


Figure 27. Training Effect on Identifying Emotional Triggers

Figure 28 below shows how respondents rated the increase in their ability to perceive the needs of others. Overall, 84% of respondents answered that the training received provided some increase and 47% reported a moderate or significant increase in their abilities to perceive the needs of others.



Perceive Others' Needs

Figure 28. Training Effect on Perceiving Others' Needs

Figure 29 below shows how respondents rated the increase in their ability to create a vision and shared goals for their team. Overall, 81% of respondents answered that the training they received provided some increase and 54% reported a moderate or significant increase in their abilities to create a vision and shared goals for their team.

Create Vision & Shared Goals 9% 16% Significant Increase Moderate Increase Slight Increase No Increase N/A

Figure 29. Training Effect on Creating Vision and Shared Goals

Figure 30 shows how respondents rated the increase in their ability to resolve conflict. Overall, 80% of respondents answered that the training they received provided some increase and 55% reported a moderate or significant increase in their abilities to resolve conflict.

Resolve Conflict

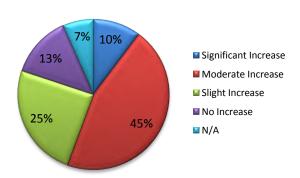


Figure 30. Training Effect on Conflict Resolution

Figure 31 below shows how respondents rated their increase in their ability to adapt to changing needs and priorities. Overall, 80% of respondents answered that the training they received provided some increase and 49% reported a moderate or significant increase in their abilities to adapt to changing needs and priorities.

Adapt to Changing Priorities

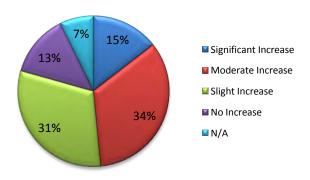


Figure 31. Training Effect on Ability to Adapt to Changing Needs and Priorities

Figure 32 below shows how respondents rated the increase in their ability to maximize the strengths of their team to meet customer needs. Overall, 79% of respondents answered that the training they received provided some increase and 51% reported a moderate or significant increase in their abilities to maximize the strengths of their team.

Maximize Team Strengths 9% 15% Significant Increase Moderate Increase Slight Increase No Increase No Increase N/A

Figure 32. Training Effect on Ability to Maximize Team Strengths

The third training question asked respondents to rank the five leadership training courses that most increased their emotional intelligence. The list of the top five training courses was developed by summing the number of times each class was ranked first, second, third, fourth, and fifth. Each first place vote was weighted as a five, each second place vote was weighted as a four, each third place vote was weighted as a three, each fourth place vote was weighted as two, and each fifth place vote was weighted as one. The top five leadership training courses for increasing emotional intelligence are:

- 1. Undergraduate academic course in leadership
- 2. Graduate academic course in leadership
- 3. 7 Habits of highly effective people (as described in Chapter 1) UNCLASSIFIED

- 4. Leadership and organizational effectiveness (as described in Chapter 1)
- 5. Mentoring or coaching program (informal program offered through TACOM)

If respondents had received training other than the listed options, an open-ended question allowed them to rank the other training programs in the top five. None of the non-listed leadership training courses were ranked in the top five. The Eckerd leadership courses were ranked seventh overall.

In order to test hypothesis H_{0A} - The amount of training does not have a significant effect on EI of TACOM senior leaders-the respondents were categorized into four groups depending on the number of leadership courses taken. An ANOVA was performed on the four groups to determine if there is a statistically significant difference among the groups. *Figure 33* shows the four groups and the mean emotional intelligence score for each group. Overall, the number of respondents was distributed evenly across all four groups with the smallest group, more than 6 leadership training courses, having 42 respondents and the largest group, 2-3 leadership training courses, having 64 respondents. As the number of leadership training courses taken increased, so did the respondents EI score.

	# of leadership	# Respondents in	
Group #	courses received	Group	Mean EI Score
1	0-1	43	101.4
2	2-3	64	103.9
3	4-5	55	105.5
4	6+	42	108.1

Figure 33. Mean EI Score for Respondent Groups by # Leadership Courses

Figure 34 shows the ANOVA results. Testing at the 95% confidence level shows that there is a statistically significant difference (p=0.0042) among the groups. Thus we reject H_{0A} .

	Standard				
Mean	Deviation	F	P-Value	F crit	Result
104.67	8.94	4.54	0.0042	2.65	Reject H _{0A}

Figure 34. Quantity of Leadership Courses ANOVA Results

Additional statistical analysis using the Tukey-Kramer Post Hoc Test shown in Figure 35 below shows that there is a statistically significant difference in the mean scores between Group 1 and Groups 3 & 4, between Group 2 and Group 4, and between Group 3 and Group 4. In all cases EI is higher in the group that took the most courses (Group 4) than every other group. Statistically significant results are found in values above 3.775.

	Group	Group	Group	Group
	1	2	3	4
Group				
1	0			
Group				
2	2.48	0		
Group				
3	4.132*	1.652	0	
Group				
4	6.7*	4.22*	2.568	0

Figure 35. Tukey-Kramer Post Hoc Test for Leadership Courses

Demographic Data

Military Experience. In order to test hypothesis H_{0B} – Military experience does not have a significant effect on EI of TACOM senior leaders-a two tailed T-Test was performed at

the 95% confidence level. The results shown in Figure 36 are not significant (p=0.312), thus we accept the null hypothesis.

	Mean for	Mean for				
	Respondents	Respondents				
	with	without				
	Military	Military				
Alpha (α)	Experience	Experience	T	P-Value	T crit	Result
0.05	105.41	104.13	1.014	0.312	1.973	Fail to
0.03	103.41	104.13	1.014	0.312	1.9/3	reject H _{0B}

Figure 36. Military Experience T-Test Results

Gender Data. In order to test hypothesis H_{0C} -There is no difference in the EI of male and female senior leaders at TACOM-a two tailed T-Test was performed at the 95% confidence level. Figure 37 shows that the difference is not statistically significant (p=0.374), thus we accept the null hypothesis.

	Mean for	Mean for				
	Male	Female				
Alpha (α)	Respondents	Respondents	T	P-Value	T crit	Result
0.05	104.34	105.77	-0.895	0.374	1.995	Fail to reject H _{0C}

Figure 37. Gender T-Test Results

Age Data. In order to test hypothesis H_{0D} – Age does not have a significant effect on the EI of TACOM senior leaders-a two tailed T-Test was performed at the 95% confidence level. Figure 38 shows that the difference is not statistically significant (p=0.284), thus we accept the null hypothesis.

	Mean for	Mean for				
	21-49 age	50+ age				
Alpha (α)	group	group	T	P-Value	T crit	Result
0.05	103.89	105.25	-1.074	0.284	1.973	Fail to reject H _{0C}

Figure 38. Age T-Test Results

Leadership Experience Data

In order to test hypothesis H_{0E} – The years of leadership experience does not have a significant effect on the EI of TACOM senior leaders-the respondents were categorized into four groups depending on the number of years of leadership experience they have. An ANOVA was performed on the four groups to determine if there is a statistically significant difference among the groups. Figure 39 shows the four groups and the mean emotional intelligence score for each group. Although the respondents in Group 3 have more leadership experience, 11-15 years, than the respondents in Group 2, 6-10 years, they have a lower mean EI score. The respondents in Group 1 have the least amount of leadership experience, 0-5 years, and also have the lowest mean EI score. Group 4, over 15 years of leadership experience, had the same number of respondents, 102, as the other three groups combined.

	# of years of		
	leadership	# Respondents in	
Group #	experience	Group	Mean EI Score
1	0-5	26	98.6
2	6-10	44	106.3
3	11-15	32	101.6
4	15+	102	106.5

Figure 39. Mean EI Score for Respondent Groups by Years of Leadership Experience

Figure 40 shows the ANOVA results. Testing at the 95% confidence level shows that there is a statistically significant difference (p=0.000059) among the groups, thus we reject the null hypothesis.

	Standard				
Mean	Deviation	F	P-Value	F crit	Result
104.67	8.94	7.81	0.000059	2.65	Reject H _{0E}

Figure 40. Years of Leadership Experience ANOVA Results

Additional statistical analysis using the Tukey-Kramer Post Hoc Test, shown in Figure 41 below, shows that there is a statistically significant difference in the mean scores between Group 1 and Groups 2 & 4, between Group 2 and Group 3, and between Group 3 and Group 4. There is not a statistically significant difference between Groups 1 & 3, which have the lowest mean EI scores. There is not a statistically significant difference between Groups 2 & 4, which have the highest EI scores. Statistically significant results are found in values above 4.149.

	Group	Group	Group	Group
	1	2	3	4
Group				
1	0			
Group				
2	7.68*	0		
Group				
3	2.978	4.702*	0	
Group				
4	7.855*	0.175	4.877*	0

Figure 41. Tukey-Kramer Post Hoc Test for Leadership Experience

Summary of Final Open-Ended Survey Question

As shown in Appendix C, a total of 28 comments were submitted by the respondents when asked to provide additional comments regarding emotional intelligence as it applies to leadership skills at TACOM. These comments were categorized into five different themes as shown in Figure 42 below.

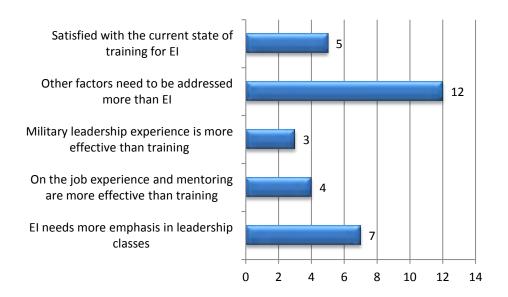


Figure 42. Open-Ended Responses by Category

Overall, the theme with the most comments, 12, observed that other factors regarding leadership at TACOM need to be addressed more than emotional intelligence, both in the workplace and in training classes. The second largest number of comments, 7, indicated that additional emphasis should be placed on emotional intelligence in the current leadership courses. Thus most comments indicated that they want more EI emphasis in leadership classes and for leadership to address other issues. Only five respondents indicated that they were satisfied with

the current state of EI at TACOM. Four respondents commented that leadership training courses are not as effective as mentoring and on the job training for increasing EI. Three respondents commented that military leadership experience is more effective than training for increasing EI.

Summary

All 25 questions related to self-assessing emotional intelligence generated favorable ratings. For all questions, 69% or more TACOM senior leaders reported they agree or strongly agree that they possess the specified emotional intelligence skills. This is in line with a recent survey of TACOM employees that reported that the majority of the survey respondents were satisfied or very satisfied with the emotional intelligence displayed by TACOM senior leaders (Marck, 2012).

Statistically significant differences were found in the EI of leaders based on the quantity of leadership courses received and years of leadership experience. The demographic factors, military experience, gender, and age, did not show statistically significant differences among groups.

The leadership courses with the highest percentage of attendance were (in order from most attended):

- 1. Undergraduate academic course in leadership
- 2. 7 Habits of Highly Effective People
- 3. Graduate academic course in leadership
- 4. Leadership and Organizational Effectiveness
- 5. Mentoring or coaching program

These same five leadership courses were also ranked as the top five courses for increasing emotional intelligence. For the open-ended question, which allowed respondents to

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identify additional leadership training classes and programs, the Eckerd leadership courses were most attended as well as most effective at increasing emotional intelligence.

Chapter 5 – Conclusions and Recommendations

To date, there are many opinions about what it takes to be a great leader but no definitive answer. The technology advances in the twenty-first century have precipitated significant changes for the workforce; consequently, the old ways of doing things may no longer be effective or efficient (Redman et al, 2004). Studies have shown that great leadership is more than a mastery of technical skills; and that soft skills have become crucial (Mitchell et al, 2010). Soft skills describe a set of abilities or talents that an individual can bring to the workplace including team skills, communication skills, leadership skills, customer service skills, and problem solving skills (James et al, 2004).

Intelligence is identified with both technical and soft skills. It has been analyzed and debated in many research studies. Intelligence consists of technical, social, and emotional intelligence. This paper focused on emotional intelligence among senior leaders at TACOM. For the purpose of this research, EI is defined as the set of abilities, both verbal and non-verbal, that enables a person to generate, recognize, express, understand, and evaluate her own and others' emotions in order to guide thinking and make decisions (Van Rooy et al, 2004).

The purpose of this study is to determine how emotionally intelligent the TACOM senior leaders are, and whether the leadership training being offered to these leaders increases their emotional intelligence. Factors such as leadership experience, gender, and military background will be examined to determine their effects on emotional intelligence. The research compared the EI scores to the years of leadership experience to determine if it has a significant effect. The research also compared the EI scores of men and women to determine if gender has an impact. It also compared the EI scores of those with military experience and those without to determine whether the military experience has an impact on the EI score. Once the most significant factors

and most effective training programs in developing EI have been identified, potential training options and other programs for developing EI can be developed.

This chapter contains the findings and implications, recommendations, and suggestions for future research based upon the literature review and findings from this research study. The chapter also contains the limitations of this research and conclusions by the researcher.

Findings and Implications

The findings for each hypothesis and the implications for management are discussed in this section. There were six research questions related to emotional intelligence in this study:

- How emotionally intelligent are the TACOM senior leaders?
- Can the amount of training taken be linked to higher EI in TACOM senior leaders?
- Does military experience make a significant difference in EI in TACOM senior leaders?
- Does gender make a significant difference in EI in TACOM senior leaders?
- Does age make a significant difference in EI in TACOM senior leaders?
- Does the amount of leadership experience make a significant difference in EI in TACOM senior leaders?

The five hypotheses tested in this research study are:

- H_{0A}: The amount of training does not have a significant effect on EI of TACOM senior leaders
- H_{0B}: Military experience does not have a significant effect on EI of TACOM senior leaders
- H_{0C}: There is no difference in the EI of male and female senior leaders at TACOM
- H_{0D} : Age does not have a significant effect on the EI of TACOM senior leaders

 H_{0E}: The years of leadership experience does not have a significant effect on EI of TACOM senior leaders

The first research question is addressed by the data provided in response to the self-report emotional intelligence question. Research questions 2-6 are addressed by hypotheses H_{0A} - H_{0E} , respectively. Research question two is also addressed in the qualitative analysis of the openended questions. The findings for each of the hypotheses are discussed below.

 (H_{0A}) The amount of training does not have a significant effect on EI of TACOM senior leaders. Although results of studies have been mixed regarding the methods of teaching work best, many studies have reported that an increase in emotional intelligence is positively correlated with taking courses in leadership (Dulewicz et al. 2004). Additionally, studies show that exposure to the concept of emotional intelligence positively correlates to higher emotional intelligence scores (Esmond-Kiger et al, 2006). The Tukey-Kramer Post Hoc test showed statistically significant differences between Group 1 and Groups 3 &4 as well as between Group 2 and Group 4. Respondents in Group 1 have received one or less training classes. Respondents in Group 2 have received 2-3 training classes. Respondents in Group 3 have received 4-5 training classes and the respondents in Group 4 have received 6 or more training classes. Among the groups, the mean score increases from Group 1 at 101.4 to Group 4 at 108.1. Therefore, one can conclude that 4-5 leadership courses with exposure to the concept of emotional intelligence increases a person's emotional intelligence but additional courses, beyond 4-5, do not create a statistically significant difference in the emotional intelligence score. The implication for this is that TACOM should continue to encourage current senior leaders as well as potential future leaders to take at least 4-5 leadership courses.

 (H_{OB}) Military experience does not have a significant effect on EI of TACOM senior leaders. Military leaders are expected to lead under pressure in many different types of situations. They can be stereotyped as lacking in emotion however, according to at least one military leader, leadership is emotional for all those involved (Day, Zaccaro, & Halpin, 2004). The mean scores for respondents with and without military experience are 105.41 and 104.13 respectively. The findings from the T-Test showed that there was not a statistically significant difference between the mean scores of the two samples. Therefore, one can conclude that emotional intelligence is similar for both military and civilian leaders at TACOM.

 (H_{0C}) There is no difference in the EI of male and female senior leaders at TACOM. Results for correlating gender with emotional intelligence found in the literature review appear to be inconclusive. All three of the most popular measurement instruments, the MSCEIT, the EQ-I, and the ESCI/ECI, have been used with varying results. However, the mean scores for male and female leaders at TACOM are 104.34 and 105.77 respectively. The findings from the T-Test showed that there was not a statistically significant difference between the mean scores of the two samples. Therefore, one can conclude that emotional intelligence is similar for both groups. This implies that gender does not have a significant effect on emotional intelligence among leaders at TACOM.

 (H_{0D}) Age does not have a significant effect on the EI of TACOM senior leaders. Studies in the literature review have shown mixed results on the effect of age on emotional intelligence scores. For this study, the respondents were separated into two groups according to age, the first group contains respondents age 21-49 and the second group contains respondents age 50 and above. The mean scores for group one and group two are 103.89 and 105.25 respectively. The findings from the T-Test showed that there is not a statistically significant difference between the

mean scores of the two samples of TACOM leaders. Therefore one can conclude that emotional intelligence is similar for both groups and that age does not affect emotional intelligence among TACOM leaders.

(*H*_{0E}) The years of leadership experience does not have a significant effect on EI of TACOM senior leaders. Few empirical studies have been completed regarding the connection between leadership experience and emotional intelligence, but the ones that have been completed conclude that more leadership experience positively correlates with increased emotional intelligence scores (Cook et al, 2011) (Roy et al, 2011). The survey respondents were separated into four categories depending on the amount of leadership experience. Group 1 has less than 5 years of leadership experience. Group 2 has 6-10 years of leadership experience. Group 3 has 11-15 years of leadership experience. Group 4 has over 15 years of experience.

The Tukey-Kramer Post Hoc test findings show that there are statistically significant differences between Group 1 and Groups 2 and 4, between Group 2 and Group 3, and also between Group 3 and Group 4. These findings are consistent with the literature showing that more leadership experience positively affects emotional intelligence.

When the results of the leadership experience ANOVA are combined with the results of the training classes ANOVA, one can conclude that emotional intelligence is positively affected as the leaders gain leadership experience and take leadership training. These two factors are more important than gender, age, or military experience for increased emotional intelligence. This would also lead one to believe that using the experiential learning model to teach emotional intelligence would provide increased benefits to TACOM senior leaders. Using that model and increasing the emphasis of emotional intelligence in the leadership courses would satisfy the comments received as part of the open-ended question.

According to the respondents, the most effective leadership courses for increasing emotional intelligence abilities were undergraduate leadership courses. The second most effective leadership courses for taking emotional intelligence were graduate leadership courses. These courses would be taken as part of a degree program and are not offered separately by TACOM. The third (7 Habits of Highly Effective People), fourth (Leadership and Organizational Effectiveness), and fifth (mentoring or coaching program) most effective course for improving emotional intelligence abilities are offered through TACOM.

Recommendations

The research presented in this study shows that emotional intelligence is positively affected by taking leadership courses. This is supported by the literature review. Additionally, the leadership courses that ranked highest for providing increased emotional intelligence were undergraduate and graduate academic courses. TACOM training planners should query senior leaders to determine specific leadership courses offered as part of undergraduate and graduate studies to determine which courses were most effective in contributing to emotional intelligence. Once these courses are identified, they should be offered as part of a leadership training program containing 4-5 courses that provide exposure to the concept of emotional intelligence as well as other dimensions of leadership for current and future leaders. Specifically, TACOM leaders should be encouraged to take 7 Habits of Highly Effective People and Leadership and Organizational Development which are offered by TACOM. TACOM leaders should also be encouraged to participate in informal mentoring programs.

Additionally, this study shows that emotional intelligence is positively correlated with leadership training courses, therefore more emphasis and encouragement should be given to the workforce to attend at least 4-5 of these courses. Along with encouragement for attendance,

more availability should be offered. One option that would satisfy some of the open-ended responses would be to offer courses with more emphasis on emotional intelligence. TARDEC is beginning to offer one such course in spring 2012 that utilizes Bar-On's assessment method. This is a workshop that will focus entirely on developing emotional intelligence.

The research presented in this study also shows that leadership experience is positively correlated to increased emotional intelligence. This is supported by the literature review.

TACOM senior leaders should identify potential leadership opportunities for employees to in order to develop future leaders with increased emotional intelligence. Practice makes perfect.

This adage can be applied to emotional intelligence. The more opportunities one has to practice emotional intelligence as a skill, the more one can increase her emotional intelligence. The data presented in this study show that the group with the highest mean score, 106.7, is the group that has more than 15 years of leadership experience. This study also shows that age, gender, and military experience do not have a statistically significant effect on emotional intelligence so leadership training can benefit young, future leaders.

Suggestions and Implications for Future Research

The benefit of this research study is that it identified how emotionally intelligent
TACOM senior leaders are, and the factors that have the most statistically significant impacts on
their emotional intelligence. The final open-ended question indentified areas that TACOM
senior leaders would like to see addressed with regard to emotional intelligence. This resulted in
12 comments that indicate other leadership factors need to be addressed and seven comments
that indicated more emphasis should be placed on emotional intelligence in leadership courses.
Five respondents were content with the amount of exposure to emotional intelligence in the
leadership training they've received. Seven respondents felt that other factors such as on the job

experience, mentoring, and military experience were more effective at increasing emotional intelligence than leadership training courses.

This study used one of the three most popular tools to quantify the emotional intelligence of TACOM senior leaders. Recommendations for future research include using one or both of the other tools available to quantify emotional intelligence. Additionally, future research could focus on a particular leadership training course to measure the emotional intelligence of the participants before the course, after the course, and again after a specified period of time. Remeasuring after a specified period of time may lead to additional information regarding the interactions among leadership experience, age, and leadership training courses.

Conclusion

This research examined the emotional intelligence of the TACOM senior leaders. Specifically, this study compared the amount of leadership courses the leaders have received as well as types of courses and years of leadership experience to determine whether emotional intelligence is increased with more leadership training. The study also examined demographic factors responsible for any differences in the emotional intelligence of the senior leaders.

Significant findings from the study show that providing TACOM senior leaders with 4-5 leadership courses with exposure to the concept of emotional intelligence could increase their emotional intelligence. Additionally, the emotional intelligence of TACOM senior leaders increases with leadership experience. The themes – Other leadership factors need to be addressed, EI needs more emphasis in leadership classes, Satisfaction with current state of training for EI, On the job experienced and mentoring are more important than training for EI, and Military leadership experience is more effective than training for EI – that emerged from the qualitative responses can be used to plan for future leadership training courses and programs.

Recommendations from the findings include developing a leadership program containing 4-5 courses that expose the future TACOM leaders to the concept of emotional intelligence, and providing future leaders with critical leadership experiences. Suggested additional research on emotional intelligence includes using the other two popular assessment methods to assess EI among TACOM leaders.

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Glossary of Acronyms and Terms

ACCArmy Contracting Command
ACQAcquisition class offered by DAU
ANOVAAnalysis of Variance
CESCivilian Education System
DAUDefense Acquisition University
DoDDepartment of Defense
EIEmotional Intelligence
ECQExecutive Core Qualifications
EQEmotional Quotient
EQ-IEmotional Quotient Inventory
ESCI/ECIEmotional and Social Competence Inventory/Emotional Competence Inventory
FFMFive Factor Model
H ₀ Null Hypothesis
H ₁ Alternate Hypothesis
ILSCIntegrated Logistics Support Center
IQIntelligence Quotient
IRBInstitutional Review Board
LTULawrence Technological University
MSCEITMayer-Salovey-Caruso Emotional Intelligence Test
PEO CS&CSS Program Executive Office Combat Support and Combat Support Systems
PEO GCSProgram Executive Office Ground Combat Systems
PMTProgram Management Course offered by DAU
SESSenior Executive Service
TACOMTank Automotive and Armaments Command
TARDECTank Automotive Research, Development, and Engineering Center

Appendix A – IRB Approval Letter

Lawrence Tech

Institutional Review Board

Office of the Provost and Academic Affairs Provost.ltu.edu irb@ltu.edu

December 22, 2011

Re: Suzanne Archer IRB Application

Dear Suzanne,

I have reviewed your application to the Lawrence Tech Institutional Review Board for your DAU SSCF research project, "Using Emotional Intelligence to Lead the TACOM Workforce", and have reviewed the surveymonkey link that contains the survey and voluntary informed consent. I am happy to say that your research has been approved for a period of one year, 12/07/2011-12/07/2012.

Please contact the IRB if you require an extension, or if you make any changes to your research that impact the participants.

Please do not hesitate to contact me if you have any questions.

Sincerely, Matthew Cole

Matthew Cole, Ph.D.

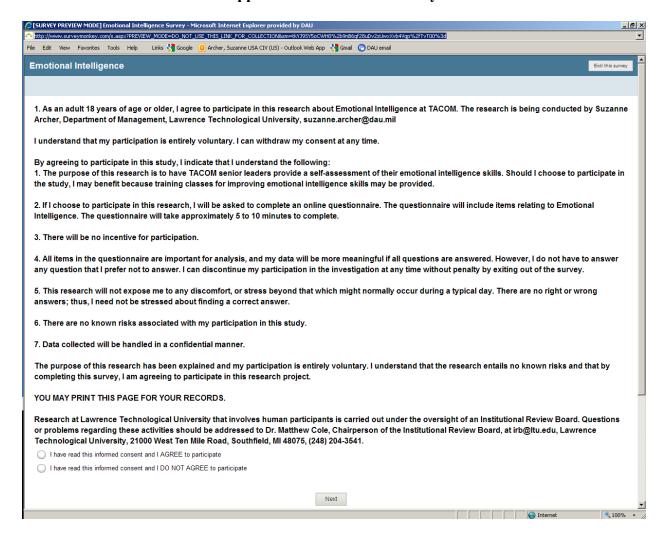
IRB Chair

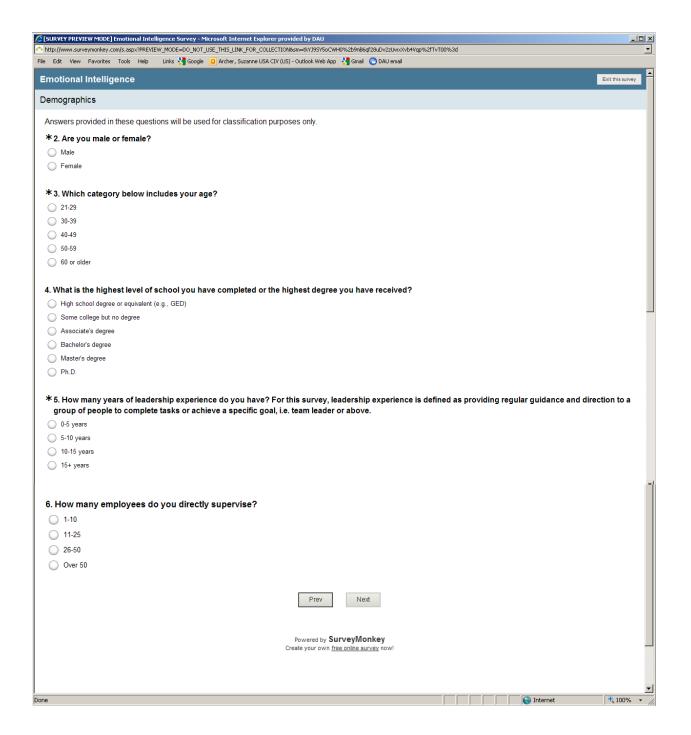
Lawrence Technological University

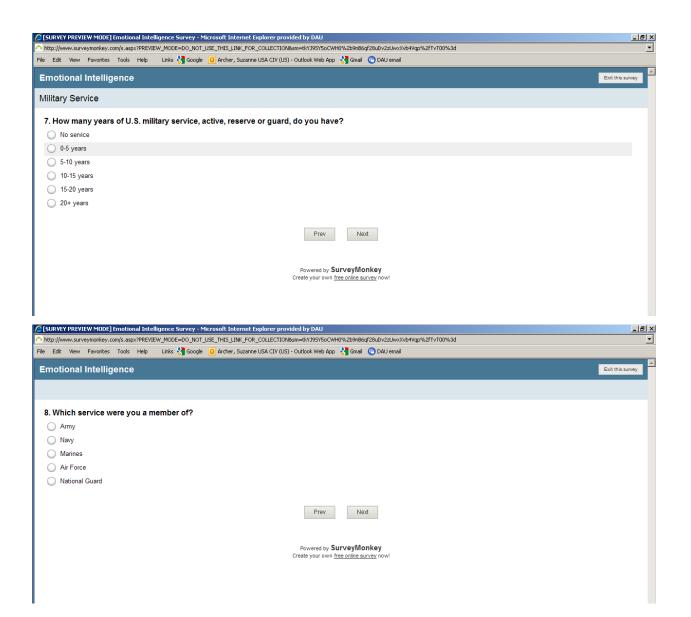
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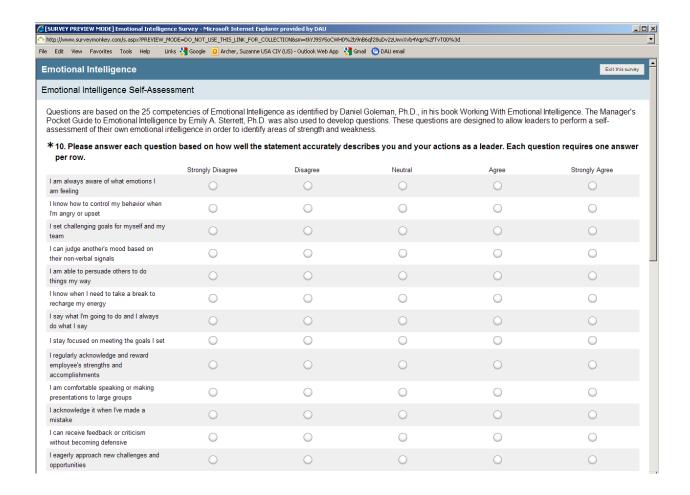
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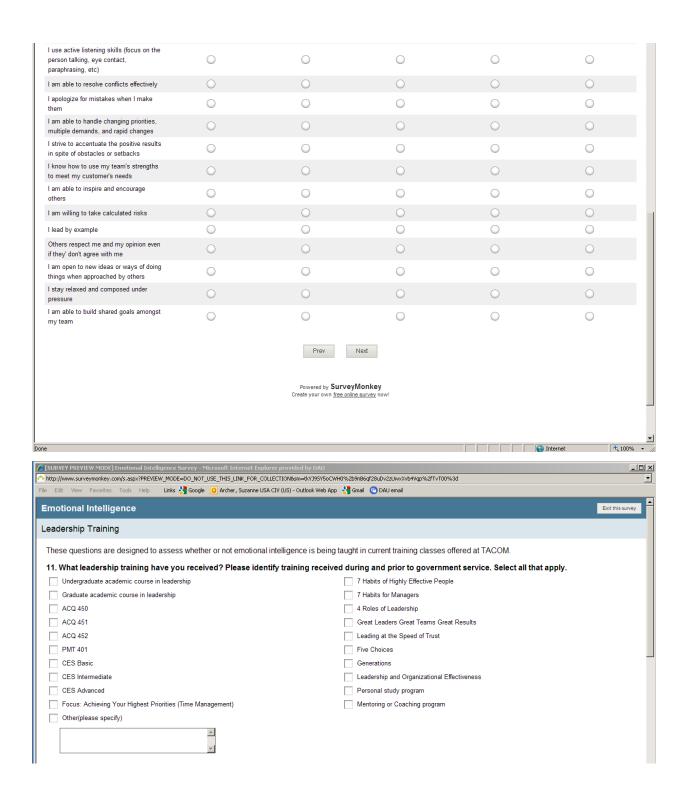
Appendix B – Research Survey



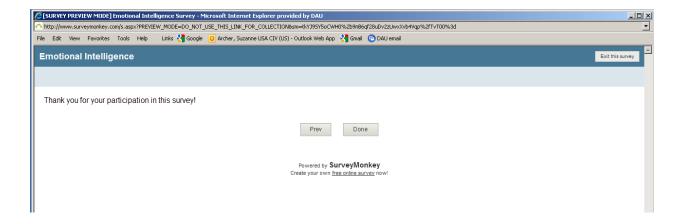








Not Applicable	No Increase	Slight Increase	Moderate Increase	Significant Increase
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				0
				0
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rograms you've taken	by how much they contri	buted to the abilities desc	ibed in Question 12 (pre	evious question).
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\bigcirc	\bigcirc	\bigcirc		\bigcirc
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Appendix C – Open-Ended Question Responses

Do you have any additional comments about emotional intelligence as it relates to leadership skills at TACOM?

Re leadership, being mentored and OJT are much more effective than the classroom.

This is an area needing more attention in leadership classes. I consider my military leadership training and classes the best compared to all the other training and classes, but the military training and classes are weak in the emotional intelligence area.

Most of my learned abilities came from on the job experiences.

Needs to be more effective training.

may want to add some military leadership courses the the lists above

Understanding how to lead/interact with an employee experiencing personal grief and stress!

TARDEC should address management's proclivity to hold onto pet projects without tangible evidence of utility or path for eventual meaning. The same concern hold for institutional cronyism that promote marginally effective personnel without fair competition across the HR pool. any attempt to improve emotional inteligence without fixing these blatant symptoms would be a waste of time because emotionally imature leader would undermine and by-pass any rational change made.

Understanding employees motivations is crtical to aligning personnel resources to organizational goals

The military is far more effective at teaching leadership and providing opportunities to use it. Local keadership courses, are IMO, largely ineffective and many TACOM junior and mid grade leaders fail to lead by example or model good leadership for thier employees. teh CES program is only marginally effective and in no way compares to te quality or duration of comparable military courses.

Most TARDEC leaders are too reactive to display emotional intelligence, at least WRT upper management. I don't see proactive or strategic thinking from leadership. WRT training, I think there is too much focus on 7 Habits (productivity) and Kotter books (change). I prefer Getting Things Done (productivity) and Switch: How To Change Things When Change is Hard (change). These latter books are much better at helping people who

have limited time and resources, and IMHO are much more effective because they focus on a few simple principles. More in line with emotional intelligence, I really liked the book called Ubuntu (cannot remember subtitle or authors).

TARDEC Leaders tend to score well in technical areas but low in Leadership or emotional intelligence.

The environment at TACOM shouldn't be one of "everybody gets a medal," but there's a lot of room for improvement. The question is, how to change behaviors?

I believe that TACOM leadership recognizes "emotional intelligence" traits when promoting future leaders.

Too many surveys! I'm starting to HATE surveys......

Darden Leadership courses are fantastic teachers and content. Eckard Collage also has some fantastic leadership courses worth taking

I don't think we have emphasis on leadership development among Civilian workforce

The use or release of emotion can be used effectively from time to time to catch a teams attention, focus or inspire forward effort. Judicious use is advised. It should never be personal. A clear head and the ability to see beyond emotion to identify real issues, sources of conflict, and effective solutions is at the essence of managing EQ.

I am not sure how much emotional intelligence can be taught. It seems to me to be more of an intangible leadership trait that people possess and can refine. If it is not possessed at the outset, no training will improve it. A person has to have a sense of emotional self confidence in order to conduct the kind of self analysis that will allow them to improve their emotional intelligence.

I do not believe TACOM invests enough in mandatory training in leadership/supervisory skills. Not sure of your overall area of focus, but this would be something important to look into. Good luck.

Survey comment: Survey says "I am always aware of what emotions I am feeling." The problem with an absolute (always) will impact answers. It can be read legitimately, as all the time or read as whenever there is an emotional element to the situation. I can read a report, perform a calculation or develop a logic tree without any emotion. If I am feeling an emotion, I know it, but there are a large number of situations that are devoid of emotional

content.

The survey did not address OJT or experiential applications. Having led major organizations and having several thousand subordinates over thirty years of supervision and mangement, there is little substitute for experience if a proper foundation has been laid and their is a support system in place for individuals in leadership positions.

While there are many opportunities for leadership development - there doesn't seem to be a push at the local organizational level or within the supervisory chain to develop leaders.

Strong Supporter great books Emotional Intelligence & Primal Leadership used in Harvard SEF. Positive Leadership (Cameron) and LIFT (Quinn) used at U of M.

Increased awarenes of EI and training in it would surely aid us in navigating the sea of change.

I do beloieve that leadership is a born trait but that natrual ability can be enhanced through training and education.

ACQ 450, 451, 452 should be combined. I would recommend a leadership EI survey for every mid-level TACOM supervisor.

I think all of the senior leaders here at TACOM to include the CG, the DCG, the CoS, the DCS and the SES could benefit a lot from more training in emotional intelligence. They all lack it and if they went to SSC they must have been out sick the day they taught it.

Senior leaders sometimes lose the ability to relate to workers becasue they don't interact as much as they used to.

Ţ	Jsing	Emotional	Intelligence	to Lead the	e TACOM	Workforce

Suzanne Archer